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TARGET SIGNATURE ANALYSIS CENTER: DATA COMPILATION

Fifth Supplement

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NOTE TO USERS

Target Signature Analysis Center: Data Compilation is a periodically updated publication of the optical and microwave target and background data stored on magnetic tape at the Target Signature Analysis Center established at The University of Michigan and sponsored by the Air Force Avionics Laboratory. Separate volumes are maintained for classified and unclassified data. The compilation is distributed in loose-leaf form so that supplemental publications can be readily integrated in accordance with the established indexing system. The complete publication history of the Target Signature Analysis Center: Data Compilation is summarized in the foreword to the enclosed document.

This present document is the second supplement of unclassified data and the fifth supplement to the overall compilation. It is meant to be integrated with the previous unclassified supplements. It consists of optical data, revised explanatory text, and composite cross-indexes for the integrated volume. The following are suggestions for combining this supplement with the unclassified data already published:

(1) Remove and destroy the previously published cover page, title page and abstract for the unclassified volume and replace them with the corresponding pages provided in this supplement.

(2) Remove and destroy the previously published table of contents for the unclassified volume and replace it with that provided in this supplement.

(3) Remove and destroy all text and indexes on the pages numbered 1 through 118 in the original volume and replace them with the appropriate revised pages of text and indexes (numbered 1 through 72) in the order indicated by the new table of contents. Note that pages containing data are to be interspersed among text material.

(4) Remove and destroy DD Form 1473, and replace it with the corresponding form provided in this supplement.

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TARGET SIGNATURE ANALYSIS CENTER:
DATA COMPILATION
Fifth Supplement

Dianne Earing

FOREWORD

This is the fifth supplement and the second unclassified supplement to Target Signature Analysis Center: Data Compilation (July 1966). It was prepared at the Willow Run Laboratories, a unit of The University of Michigan's Institute of Science and Technology. The preparation was begun under Air Force Contract AF 33(657)-10974 and continued under Contracts AF 33(615)-3654 and F33615-76-C-1293. The originator's report number is 8492-15-B. The work was administered under the direction of the Air Force Avionics Laboratory, Research and Technology Division, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio, with Mr. Bruno K. Wernicke as the project engineer.

PUBLICATION HISTORY OF THE
TARGET SIGNATURE ANALYSIS CENTER: DATA COMPILATION

Report	Date	WRL Report Number	AD Number (DDC)
Unclassified Publications			
Original Unclassified Compilation	July 1966	7850-2-B	AD 489 968
√ Second Supplement	July 1967	8492-5-B	AD 819 712
Fifth Supplement	August 1968	8492-15-B	(unassigned)
Classified Publications			
First Supplement (original classified compilation)	December 1966	7850-9-B	AD 379 650
Third Supplement	October 1967	8492-12-B	AD 384 874
Fourth Supplement	December 1967	8492-14-B	AD 391 239

The author gratefully acknowledges the invaluable assistance of Spencer T. Rogers, who was directly responsible for processing the data appearing in the Fifth Supplement to the Data Compilation. Contributers to previous supplements include I. W. Ginsberg (sec. 2), E. J. Haag (sec. 5), and J. L. Beard (sec. 6).

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ABSTRACT

This second unclassified supplement to The Target Signature Analysis Center: Data Compilation augments an ordered, indexed compilation of reflectances, radar cross sections, and apparent temperatures of target and background materials. The data include spectral reflectances and transmittances in the optical region from 0.3 to 15 μ and normalized radar cross sections (active) and apparent temperatures (passive), plotted as a function of aspect or depression angle, at millimeter wavelengths. When available, the experimental parameters associated with each curve are listed to provide the user with a description of the important experimental conditions.

This supplement contains approximately 400 data curves from experimental studies which include the current Target Signature Mea..rements Program conducted at The University of Michigan and sponsored by the Air Force Avionics Laboratory. The unclassified compilation, including these data, consists of about 4300 curves.

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Fifth Supplement

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INTRODUCTION

The Target Signature Analysis Center established at the Willow Run Laboratories of The University of Michigan's Institute of Science and Technology and sponsored by the Air Force Avionics Laboratory comprises a document collection, a data library, and a staff of analysts. It provides a centralized source of data and analysis techniques useful for improving remote sensors. The routine functions of the Center include collecting, evaluating, and categorizing data on the properties of various target and background objects. In the optical portion of the electromagnetic spectrum from 0.3 to 15 μ, the data are primarily on reflectance and transmittance; at microwave frequencies, they consist of normalized radar cross sections (active) and apparent temperatures (passive). The primary source of data is reports published by laboratories making such measurements. In some instances, unpublished data have also been acquired directly from an experimenter.

Each document received by the Analysis Center is examined for data to be added to the library. Selected data are then manually digitized using an established format. Coded descriptors are assigned to each curve for retrieval purposes, and the conditions of each experiment are recorded. Data points and the descriptive and parametric information are also stored on magnetic tape. Since the parameters required to define radar measurements differ in many respects from those required for optical measurements, separate formats were designed to handle the different types of information. However, a general format has recently been devised and will eventually be used for all data. This new format is discussed in section 6 and has been used for processing the passive microwave data.

Optical ($0.3 < \lambda < 1000\ \mu$) and microwave ($\lambda > 1000\ \mu$) instruments were used to obtain the data reported here; the experiments were conducted during the last three decades. Three types of measurements are represented:

(1) Laboratory measurements of materials such as leaves, soil, and paints
(2) Ground-based field measurements of objects such as plants, soil plots, and vehicles
(3) Airborne measurements of scenes

In the optical portion of the spectrum, laboratory measurement programs are far more abundant than either ground-based field measurements or airborne programs. Over the last

several years, the U. S. National Bureau of Standards has conducted extensive laboratory measurements of vegetation and some other materials in the visible, near-infrared, and, more recently, longer wavelength regions. Past ground-based field measurements in the optical region include the extensive basic studies by Krinov in the 1930's [1] and those conducted by the U. S. Army Engineer Research and Development Laboratory (USAERDL) in the 1960's [2]. Krinov, using a field spectrograph and under conditions of natural illumination, obtained spectrograms of several natural formations found in Russia. His investigations included an examination of the dependence of spectral reflectance on season and angles of incidence and viewing. The USAERDL experiments were conducted using a portable field spectrophotometer with an artificial source of illumination. The spectral directional reflectance of several crops (e.g., corn, soybeans, wheat) was studied as a function of several parameters such as the moisture content and fertilizer content of the soil, crop maturity, and the amount of soil background. Very few airborne measurements have been made in the optical portion of the spectrum. Krinov obtained only a few airborne spectrograms during his extensive field studies. In 1945, Duntly used an Eastman Kodak airborne spectrograph to obtain terrain measurements in the visible region [3]. Other airborne programs have been concerned mainly with collecting optical imagery rather than measuring spectral reflectance. The available optical data cover primarily the visible and near-infrared regions. Only a relatively few experiments have yielded data for wavelengths longer than 2.5 μ, chiefly because of the lack of instrumentation for such measurements.

There is a much larger amount of data on background materials (e.g., leaves, crops, and soils) than on man-made materials. This is because most of the past measurements were performed by scientists in the fields of botany, agronomy, and natural science, and, therefore, the primary motivation for these measurements was an interest in the way natural objects react to incident solar radiation.

This data compilation is the product of a survey of existing data on target and background materials and is intended to present the results of such a survey in a single source. The picture it presents of natural and man-made objects in the real world and their interaction with electromagnetic radiation is in no way complete. Although many data have been gathered on some materials and at a few wavelengths, data are completely lacking for other materials and other wavelengths. Moreover, even the existing data are not accompanied with all the parametric and support information required for their adequate interpretation. The extensive Target Signature Measurements Program currently sponsored by the Air Force Avionics Laboratory is planned to fill existing data gaps. This program provides for laboratory and field measurements of target and background materials and objects at both optical and microwave frequencies. In the optical region, bidirectional and directional reflectances are under investigation. In the microwave region, optical simulation studies are being conducted, and existing radiometric (passive) data are being collected. Some of the data from this program, specifically directional

reflectance data in the 0.3- to 2.5-μ spectral interval and the passive microwave data, are included in this report. Other data from the program, including the bidirectional reflectance data, will be published in future supplements to this compilation.

Section 2 of this report treats the concept of reflectance theoretically. This includes definition of the basic optical properties, bidirectional, directional, and total reflectance, and derivation of their mathematical relationships. In addition, the instruments used to obtain the optical data are described and equations derived for the optical properties measured by these instruments. Section 4 contains the optical data. Each curve has been assigned several alphabetic descriptor codes to describe the object measured, the instrumentation used, the optical property measured, and the spectral interval (cf. table I). The curves have been grouped according to the coded descriptor that best describes the object measured. Section 5 contains active microwave data, i.e., averaged, normalized radar cross sections as a function of aspect angle, with frequency as a parameter. Each curve has been assigned a numeric descriptor code to describe the type of terrain measured and pertinent conditions of the measurement. The curves are grouped according to the type of object measured. Section 6 has the passive microwave data in the form of apparent temperatures as a function of either depression or aspect angle. Each curve has been assigned alphabetic descriptors, as have the optical data curves, and the curves are arranged by the object measured. Only unclassified data from the Target Signature Analysis Center's collection are included in this supplement. The classified data have been published separately and are referenced in the foreword to this report. A subject cross index to the data (sec. 3) and a bibliographical listing of the documents from which the data in sections 4, 5, and 6 were extracted (sec. 7) have also been provided.

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TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST

A	TARGETS
AA	Ground
AAA	Buildings
AAAA	Steel
AAAB	Brick, Stone, Concrete
AAAC	Wood Frame
AAAD	Stick Huts
AAAE	Mud Huts
AAB	Guns
AABA	Artillery
AABB	Rifles
AAC	Industrial Facilities
AACA	Power Stations
AACB	Shipyards
AAD	Military Facilities
AADA	Communication Centers
AADB	Fortifications
AADC	Launching Sites
AADCA	Antiaircraft
AADD	Marshalling Yards
AADE	Supply Depots
AAE	Airfields
AAF	Railroad
AAFA	Tracks
AAFB	Yards
AAG	Roads
AAH	Bridges
AAI	Dams
AAJ	Docks
AAK	Personnel
AAKA	Clothing
AAKAA	Cotton Fibers (Cellulose)
AAKAB	Synthetic Fibers
AAKAC	Wool Fibers
AAKAD	Noncloth Items
AAKB	Troop Concentrations
AAKC	Skin
AAKCA	Asiatic
AAKCB	Caucasian
AAKCC	Negro
AAL	Vehicles
AALA	Aircraft
AALB	Armored
AALC	Convoys
AALD	Earth-Moving
AALE	Tanks
AALF	Trucks
AB	Marine
ABA	Submarine
ABB	Surface Vessels
ABBA	Barges
ABBB	Landing Craft
AC	Camouflage
AD	Decoys

*Not being used in the present system.

AE	Materials
AEA*	Aluminum
AEB	Asphalt
AEC	Brick
AED	Burlap
AEE	Canvas
AEF	Cinder
AEG	Concrete
AEH	Dirt
AEI*	Galvanized Steel
AEJ	Glass
AEK	Gravel
AEL	Metal
AELA	Aluminum
AELB	Brass
AELC	Bronze
AELD	Copper
AELE	Steel
AELEA	Galvanized
AELEB	Stainless
AEM	Paint
AEMA	White Pigments
AEMAA	Zinc Oxide (Zinc White)
AEMAB	Lead Basic Carbonate (White Lead)
AEMAC	Titanium Dioxide
AEMB	Green Pigments
AEMBA	Chromic Oxide (Chrome Green)
AEMC	Red Pigments
AEMCA	Ferric Oxide (Hematite)
AEMCB	Trilead Tetroxide (Red Lead)
AEMD	Metallic Pigments
AEMDA	Aluminum Powder
AEME	Other Pigments (Color Unknown)
AEMEA	Mica
AEMEB	Aluminum Silicate
AEMF	Mediums, Thinners, Driers
AEMFA	Resin
AEMFAA	Oleo
AEMFAB	Alkyd
AEMFB	Ester
AEMFC	Xylene
AEMG	Primer
AEN	Paper/Cardboard
AEO	Plastic
AEP	Rubber
AEQ	Tar
AER	Tile
AES	Varnish
AET	Wood
AF	Radiation Control
AFA	Antireflection Coating

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TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

AFB	Shielding
AFC	Temperature Control
AG	Signatures
AH	Geometric Shapes
AHA	Flat Plates
AHB	Dihedrals (Concave)
AHC	Trihedrals (Concave)
AHD	Spheres and Spheroids
AHE	Cylindrical Shapes
AHF	Conical Shapes
AHG	Wedges
AHH	Dipoles
AHI	Rayleigh Scatters
AHJ	Other
AI	Contaminants
AIA	Corrosion
AIB	Dew
AIC	Dirt
AID	Dust
AIE	Oxide
AIF	Rust
AIG	None Visible
B	BACKGROUNDS
BA	Atmosphere
BAA	Constituents
BAAA	Aerosols
BAAB	Dust
BAAC	Fog
BAAD	Gases
BAAE	Haze
BAAF	Rain
BAAG	Smog
BAAH	Smoke
BAAI	Snow
BAAJ	Spray
BAAK	Water Vapor
BAB	Sky
BB	Clouds
BBA	Cumulonimbus
BBB	Cirrus
BBC	Cirrocumulus
BBD	Cirrostratus
BBE	Altocumulus
BBF	Altostratus
BBG	Cumulus
BBH	Nimbostratus
BBI	Stratocumulus
BC	Light Conditions
BCA	Day
BCB	Sunrise or Sunset
BCC	Twilight
BCD	Night
BCE	Clear
BCF	Overcast
BD	Season
BDA	Summer
BDB	Fall
BDC	Winter
BDD	Spring
BE	Terrain Uniformity
BEA	Flat
BEB	Rolling
BEC	Hilly
BED	Mountainous
BEE*	Rural
BEF*	Urban
BF	Soil
BFA*	Cultivated
BFB*	Uncultivated
BFC	Coarse Textured
BFCA	Sand
BFCB	Loamy Sand
BFD	Moderately Coarse Textured
BFDA	Sandy Loam
BFDB	Fine Sandy Loam
BFE	Medium Textured
BFEA	Loam
BFEB	Silt Loam
BFEC	Silt
BFF	Moderately Fine Textured
BFFA	Clay Loam
BFFB	Sandy Clay Loam
BFFC	Silty Clay Loam
BFG	Fine Textured
BFGA	Sandy Clay
BFGB	Silty Clay
BFGC	Clay
BFH	Other Constituents
BFHA	Organic Material
BFHB	Gravel (Less Than 3-in. Diameter)
BFHC	Cobbles (3- to 10-in. Diameter)
BFHD	Stones (Greater Than 10-in. Diameter)
BFHE	Bedrock
BFHF	Salt
BFI	Series
BFIA	Aguan
BFIB	Aiken
BFIC	Akron
BFID	Alamance
BFIE	Albion
BFIF	Alonso
BFIG	Barnes
BFIH	Blakely
BFII	Clareville

*Not being used in the present system.

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

BFIJ	Clarion	BGBAA	Sphagnum Moss
BFIK	Collington	BGC	Vascular
BFIL	Colts Neck	BGCA	Banana Family
BFIM	Decatur	BGCAA	Banana
BFIN	Dublin	BGCB	Bromeliaceae Family
BFIO	Gooch	BGCBA	Bunch Grass
BFIP	Grady	BGCC	Buckwheat Family
BFIQ	Greenville	BGCCA	Buckwheat
BFIR	Guthrie	BGCD	Composite Family (cf. Ligneous)
BFIS	Hainamanu		
BFIT	Hall	BGCDA	Daisy
BFIU	Hamakua	BGCDB	Goldenrod
BFIV	Herradura	BGCDC	Ragweed
BFIW	Joplin	BGCDD	Sunflower
BFIX	Marias	BGCE	Convolvulus Family
BFIY	Marshall	BGCEA	Sweet Potato
BFIZ	Matanzas	BGCF	Crowfoot Family
BFJ	Series (Continued)	BGCFA	Crowfoot
BFJA	Maury	BGCG	Duckweed Family
BFJB	Moaula	BGCGA	Duckweed
BFJC	Naalehu	BGCH	Evening-Primrose Family
BFJD	Onomea	BGCHA	Willow Herb (cf. Willow Family)
BFJE	Ookala		
BFJF	Orangeburg	BGCI	Fern Family
BFJG	Oriente	BGCIA	Bracken Fern
BFJH	Orman	BGCJ	Flax Family
BFJI	Pallman	BGCJA	Flax
BFJJ	Penn	BGCK	Goosefoot Family
BFJK	Pierre	BGCKA	Pigweed
BFJL	Putnam	BGCKB	Sugar Beet
BFJM	Quibdo	BGCL	Gourd Family
BFJN	Rubicon	BGCLA	Squash
BFJO	Ruston	BGCM	Grass Family
BFJP	Santa Barbara	BGCMA	Barley
BFJQ	Texas Dune	BGCMB	Bermuda Grass
BFJR	Tifton	BGCMC	Corn
BFJS	Tillman	BGCMD	Creeping Grass
BFJT	Tilsit	BGCME	Fescue
BFJU	Vernon	BGCMF	Foxtail
BFJV	Weld	BGCMG	Ilyas
BFJW	Windthorst	BGCMH	Millet
BFJX	Yolo	BGCMI	Oats
BFJY	Zanesville	BGCMJ	Reeds
BFK	Minerals	BGCMK	Rice
BFL	Chemicals	BGCML	Rye
BFM	Moisture Content	BGCMM	Selin
BFMA	Dry	BGCMN	Timothy
BFMB	Damp	BGCMO	Vetch
BFMC	Saturated	BGCMP	Wheat
BG	Vegetation	BGCN	Heath Family (see also Ligneous)
BGA	Herbaceous, Algae Fungi		
BGAA	Cladoniaceae Family	BGCNA	European Blueberry
BGAAA	Reindeer Moss	BGCNB	Heather
BGB	Moss-Liverwort	BGCO	Mallow Family
BGBA	Sphagnum Family	BGCOA	Cotton

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

BGCP	Mustard Family
BGCPA	Cabbage
BGCPB	Mustard
BGCQ	Nightshade Family
BGCQA	Potatoes
BGCQB	Tomatoes
BGCR	Pea (or Pulse) Family (see also Ligneous)
BGCRA	Alfalfa
BGCRB	Clover
BGCRC	Coffee Plant
BGCRD	Lentil
BGCRE	Lima Bean
BGCRF	Pea
BGCRG	Peanut
BGCRH	Soybean
BGCRI	String Bean
BGCS	Plantain Family
BGCSA	Plantain
BGCT	Sedge Family
BGCTA	Cotton Grass
BGCTB	Sedge
BGD	Ligneous
BGDA	Arecaceae Family
BGDAA	Areca Palm
BGDB	Beech Family
BGDBA	Beech
BGDBB	Chestnut
BGDBC	Oak
BGDC	Bignonia Family
BGDCA	Catalpa
BGDD	Calycanthaceae Family
BGDDA	Meratia Praecox
BGDE	Carduacea Family
BGDEA	Rabbit Brush
BGDF	Cashew Family
BGDFA	Chinese Pistachio
BGDFB	Sumach
BGDG	Composite Family (cf. Herbaceous)
BGDGA	Sagebrush
BGDGB	Wormwood
BGDH	Dogwood Family
BGDHA	Dogwood
BGDI	Ebony Family
BGDIA	Ironwood (cf. Hazel Family)
BGDIB	Persimmon
BGDJ	Elm Family
BGDJA	Elm
BGDK	Figwort Family
BGDKA	Paulowina
BGDL	Hazel Family
BGDLA	Alder
BGDLB	Birch
BGDLC	Hazelnut
BGDLD	Hornbeam
BGDLE	Ironwood (cf. Ebony Family)
BGDM	Heath Family (cf. Herbaceous)
BGDMA	Mountain Laurel
BGDN	Holly Family
BGDNA	Holly
BGDO	Honeysuckle Family
BDGOA	Viburnum
BGDP	Laurel Family
BGDPA	Laurel
BGDPB	Sassafrass
BGDQ	Lily Family
BGDQA	Yucca
BGDR	Linden Family
BGDRA	Basswood
BGDRB	Linden
BGDS	Logania Family
BGDSA	Privet (Ligustrum)
BGDT	Magnolia Family
BGDTA	Magnolia
BGDTB	Tulip
BGDTC	Tulip Poplar
BGDU	Maple Family
BGDUA	Maple
BGDV	Mulberry Family
BGDVA	Rubber
BGDW	Olive Family
BGDWA	Ash
BGDX	Pine Family
BGDXA	Cedar
BGDXB	Fir
BGDXC	Juniper
BGDXD	Larch
BGDXE	Pine
BGDXF	Spruce
BGDY	Plane-Tree Family
BGDYA	Sycamore
BGDZ	Pea Family (cf. Herbaceous)
BGDZA	Locust
BGE	Ligneous (Continued)
BGEA	Rose Family
BGEAA	Blackberry
BGEAB	Cherry
BGEAC	Hawthorn
BGEAD	Juneberry
BGEAE	Peach
BGEAF	Pin Cherry
BGEAG	Plum
BGEB	Sour Gum Family
BGEBA	Gum
BGEC	Trumpet-Creeper Family
BGECA	Calabash

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

BGED	Vine Family
BGEDA	Virginia Creeper
BGEE	Walnut Family
BGEEA	Hickory
BGEF	Willow Family
BGEFA	Aspen
BGEFB	Poplar
BGEFC	Willow (cf. Evening Primrose Family)
BGEFCA	Dwarf
BGEFCB	Ground
BGEG	Witch Hazel Family
BGEGA	Sweet Gum
BGF	Leaf
BGFA	Narrow
BGFB	Broad
BGFBA	Coriaceous (Leathery)
BGFBB	Membranous
BGFBC	Lower Leaf Surface
BGFBD	Upper Leaf Surface
BGFC	Young (Spring)
BGFD	Mature (Summer)
BGFE	Old (Fall)
BGFF	Dry
BGG	Bark
BGH	Twig
BH	Water
BHA	Formations
BHAA	Lake
BHAB	Puddle
BHAC	River
BHAD	Sea
BHB	State
BHBA	Ice
BHBB	Ice and Liquid
BHBC	Liquid
BHBD	Snow
BI	Climate
BJ	Composite Backgrounds
BJA	Urban
BJAA	Villages
BJAB	Towns
BJAC	Cities
BJB	Rural-Uncultivated
BJBA	Jungle
BJBB	Forest
BJBC	Grassplains
BJBD	Marsh
BJBE	Tundra
BJBF	Desert
BJC	Rural-Cultivated
BJCA	Orchard
BJCB	Bushes and Shrubs
BJCC	Plowed Fields
BJCD	Pasture or Grain
BJCE	Rice Paddy
C	EQUIPMENT
CA	Radar
CAA	Coherent
CAB	Noncoherent
CAC	Pulse
CAD	CW
CAE	MTI
CAF	Resolution Limited by Antenna
CAG	Synthetic Aperture
CB	Radiometer
CBA	Optical (Wavelength Less Than 1000 μ)
CBB	Microwave (Wavelength Greater Than or Equal to 1000 μ)
CBBA	Unmodulated
CBBB	Post-Detection Modulated
CBBC	Signal Modulated
CBBD	Cross Correlated
CBBE	Two-Channel Subtraction
CC	Spectrograph
CCA	Eastman Kodak
CD	Spectrometer
CDA	Beckman
CDAA	Model DU
CDAB	Model DK-1
CDAC	Model DK-2
CDAD	Microspec
CDB	General Electric
CDC	Perkin-Elmer
CDCA	Model 12
CDCB	Model 21
CDD	Interference
CDE	Cary
CDEA	Model 14
CDEB	Model 90
CE	Platform
CEA	Aircraft
CEB	Balloon
CEC	Ground
CED	Laboratory
CEE	Shipborne
CF	Optical
CFA	Ultraviolet
CFB	Visible
CFC	Infrared
CFD	Active
CFE	Passive
CG	Detectors
CH	Filters
CI	Image Tubes
CJ	Materials

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

CJA	Reflectance Standards (Optical)
CJAA	Magnesium Oxide
CJAAA	Smoked
CJAAB	Pressed
CJAB	Magnesium Carbonate
CJAC	Suphur
CJAD	Aluminum
CJADA	Mirror
CJADB	Sandblasted
CJAE	Sapphire Felt
CJAF	Other Specular Standards
CJAG	Other Diffuse Standards
CJB	Reflectance Standards (Microwave
CJBA	Metallic Sphere
CJBB	Luneberg Reflector
CJBC	Corner Reflector
CK	Evaluation
CKA	Noise
CL	Reflectometer (Bidirectional)
CLA	EGR
CLB	PGR
CM	Polarimeter
D	RADIATION
DA	Pattern
DAA	Aspect Dependence
DAB	Optical Cross Section
DAC	Radar Cross Section (σ)
DACA	Normalized (σ_0)
DB	Attenuation
DBA	Absorption
DBB	Scatter
DBBA	Backscatter Coefficient (ρ)
DC	Modulation
DD	Polarization
DDA	Radar
DDAA	Circular
DDAAA	Right
DDAAB	Left
DDAB	Elliptic
DDABA	Right
DDABB	Left
DDAC	Linear
DDACA	Horizontal or Perpendicular
DDACB	Vertical or Parallel
DDACC	Oblique
DDACCA	Cross-Polarized
DDACCB	Parallel-Polarized
DDAD	Random
DDB	Optical
DDBA	Circular
DDBAA	Right
DDBAB	Left

DDBB	Elliptic
DDBBA	Right
DDBBB	Left
DDBC	Linear
DDBCA	Perpendicular
DDBCB	Parallel
DDBD	Random
DE	Refraction
DF	Reflectance
DFA	Directional
DFAA	Specular Included
DFAB	Specular Not Included
DFB	Specular
DFC	Standard
DFCA	Baryte
DFCB	Flowers of Sulfur
DFCC	Gypsum
DFCD	Magnesium Carbonate
DFCE	Magnesium Oxide
DFCF	Paper
DFCG	Rhodium Mirror
DFCH	Aluminum Mirror
DFD	Bidirectional
DFE	Total (Albedo)
DFF	Absolute
DG	Scintillation
DH	Solar Influence
DI	Transmittance
DIA	Directional
DIB	Bidirectional
DJ	Emission
DJA	Atmosphere
DJB	Emissivity
DJC	Emittance
DJD	Blackbody
DJE	Greybody
DJF	Fluorescence
DJG	Thermal
DK	Artificial Sources
DKA	Arc
DKB	Beacon
DKC	Flame
DKD	Flare
DKE	Gas
DKF	Gas Discharge
DKG	Globar
DKH	Incandescent Lamp
DKI	Maser, Laser, Iraser, Uvaser
DKJ	Mantle
DKK	Nernst Glower
DKL	Nuclear Explosion
DKM	Oscillator
DKN	Shock Tube
DKO	Spark
DKP	Vapor Lamp
DKQ	Monochromator

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Continued)

DL	Natural Sources
DLA	Aurora
DLB	Airglow
DLC	Lightning
DLD	Lunar
DLE	Planetary
DLF	Solar
DLG	Stellar
DLH	Zodiacal Light
DLI	Sky
DM	Flux
DN	Radiance
DO	Coherence
DP	Diffraction
DQ	Apparent Temperature
DQA	Antenna
DQB	Target
DQC	Contrast
E	SPECTRA
EA	Gamma Rays
EB	X-Rays
EC	Optical
ECA	Ultraviolet
ECAA	Less than 0.1 μ
ECAB	0.1 to 0.2 μ
ECAC	0.2 to 0.3 μ
ECAD	0.3 to 0.4 μ
ECB	Visible (0.4 to 0.7 μ)
ECBA	Chromaticity
ECBB	Color
ECBBA	Blue
ECBBB	Green
ECBBC	Yellow
ECBBD	Orange
ECBBE	Red
ECBBF	Brown
ECBBG	Field Drab
ECBBH	Khaki
ECBBI	Olive Drab
ECBBJ	White
ECBBK	Grey
ECBBL	Black
ECC	Infrared
ECCA	0.7 to 1.5 μ
ECCB	1.5 to 3.0 μ
ECCC	3 to 5 μ
ECCD	5 to 8 μ
ECCE	8 to 15 μ
ECCF	15 to 50 μ
ECCG	50 to 100 μ
ECCH	100 to 1000 μ
ECCI	1.4-μ band
ECCJ	1.9-μ band
ECCK	2.2-μ band
ECCL	2.7-μ band
ECCM	4.3-μ band
ECCN	6.3-μ band
ECCO	9.6-μ band
ECCP	Other
ECD	Line
ED	Radio Frequency
EDA	EHF (30 to 300 GHz)
EDAN	V Band (46 to 56 GHz)
EDAQ	Q Band (36 to 46 GHz)
EDAT	Upper K_a Band (30 to 36 GHz)
EDB	SHF (3 to 30 GHz)
EDBF	Lower K_a Band (20.9 to 30 GHz)
EDBJ	K_u Band (10.9 to 20.9 GHz)
EDBM	X Band (5.2 to 10.9 GHz)
EDBP	Upper S Band (3.0 to 5.2 GHz)
EDC	UHF (0.3 to 3 GHz)
EDCE	Lower S Band (1.55 to 3.0 GHz)
EDCH	L Band (0.39 to 1.55 GHz)
EDCK	P Band (2.25 to 3.90 GHz)
EDD	VHF (30 to 300 MHz)
EDE	HF (3 to 30 MHz)
EDF	MF (0.3 to 3 MHz)
EDG	LF (30 to 300 kHz)
EDH	VLF (3 to 30 kHz)
F	OPERATIONS
FA	Detection
FB	Discrimination
FC	Reconnaissance
FD	Surveillance
FE	Imaging
FEA	Photography
FEB	Scanning
FEC	Contrast
FED	Resolution
FEE	Display
FF	Filtering
FFA	Spatial
FFB	Spectral
FG	Measurement
FGA	Temperature
FGB	Time
FGC	Position
FGD	Range
FGE	Angle
FGF	Velocity

TABLE I. TARGET SIGNATURE SUBJECT-CODE LIST (Concluded)

FGG	Acceleration
FH	Calibration
FI	Homing
FJ	Pattern Recognition
G	ANALYSIS
GA	Mathematical
GAA	Model
GB	Statistical
GBA	Distribution
GBAA	Gaussian
GBB	Process
GBBA	Ergodic
GBBB	Stationary
GBBC	Nonstationary
GC	Information Processing
GCA	Digital
GD	Correlation
GDA	Auto-
GDB	Cross-
GE	One-Dimensional
GF	Two-Dimensional
GG	Linear
H	ACOUSTICS
HA	Attenuation
HAA	Absorption
HAB	Scatter
HABA	Backscatter Coefficient
HB	Modulation
HC	Refraction
HD	Reflectance
HE	Transmission
HF	Emission
HG	Artificial Sources
HH	Natural Sources
HI	Flux
HJ	Diffraction
HK	Frequency Spectrum
HL	Correlation

2
DISCUSSION OF REFLECTANCE MEASUREMENTS

2.1. THEORY

The purpose of this section is to enable the user of this data compilation to consider the data in a proper perspective. The "reflectance" alone, for example, does not sufficiently describe the results of an experiment, as will become obvious in this section. One must have knowledge of the measuring instrument's characteristics, since they have measurable effect on interpretation of the output. Some important instrument parameters include spectral resolution, the solid angle of effective viewing, and characteristics of the radiation source.

Our present understanding of radiation theory does not permit an analytical description, in closed form, of the exact relationship between the radiation emitted by a source (whether natural or artificial) and the radiation received by a remote sensor after this radiation has been reflected by an object under surveillance. There are well known laws to describe the simple case of an electromagnetic wave incident upon a perfectly planar interface between two media. In this case, the reflected wave depends upon the radiation wavelength, the angle of incidence, and the physical properties (permittivity, permeability, and conductivity) of the two adjoining media. The laws governing such a case are sufficiently understood so that the refractive index and extinction coefficient of materials involved may be found by determining the reflection coefficients of the materials. For the more complicated case involving a surface with periodic or random surface irregularities, and analytic determination of the properties of the reflected electromagnetic field may only be approximated.

In the past ten years many papers have been published on scattering, or reflection from rough surfaces. Many theories have been developed, but none is both general and rigorous at the same time. To perform reasonably simple numerical calculations on the basis of these theories, certain simplifying assumptions are introduced, usually including one or more of the following:

(1) The dimensions of scattering elements of the rough surface are either much smaller or much greater than the wavelength of the incident radiation.

(2) The radii of curvature of the scattering elements are much greater than the wavelength of the incident radiation.

(3) Shadowing or obscuration effects occurring at the surface may be neglected.

(4) Only the far field is to be considered.

(5) Multiple reflections may be neglected.

(6) Consideration is restricted to a particular model of surface roughness (e.g., sawtooth, sinusoidal protrusions of definite shape and in random position, with random variations in height given by their statistical distribution and correlation function).

Electromagnetic scattering theory has been used in the past to compute radiation backscatter from targets in the microwave region of the spectrum, where the radiation wavelength is much greater than the minute irregularities of the target surface and where the conductivity of the target material is infinite. In the optical region, where materials have finite conductivity and the surface irregularities have a wide range in size relative to the radiation wavelength, present electromagnetic scattering theory is applicable to only a few special cases, so the only way to determine reflectance in this region for target and background objects is by experimentation.

One can arrive at the most general definition of reflectance ρ' (called bidirectional reflectance [4]* by considering an infinitesimal element of surface, dA, upon which radiation of infinitesimal solid angle $d\omega_i$ and radiance L_i is incident. Taking a coordinate system fixed with respect to dA, with polar angle θ' measured from the normal and azimuth angle ϕ' measured from a fixed line (see fig. 1), the contribution to the reflected radiance, $dL_r(\theta'_r, \phi'_r)$, in the reflected pencil for the direction (θ'_r, ϕ'_r) is

$$dL_r(\theta'_r, \phi'_r) = \rho' L_i(\theta'_i, \phi'_i) \cos \theta'_i \, d\omega'_i \tag{1}$$

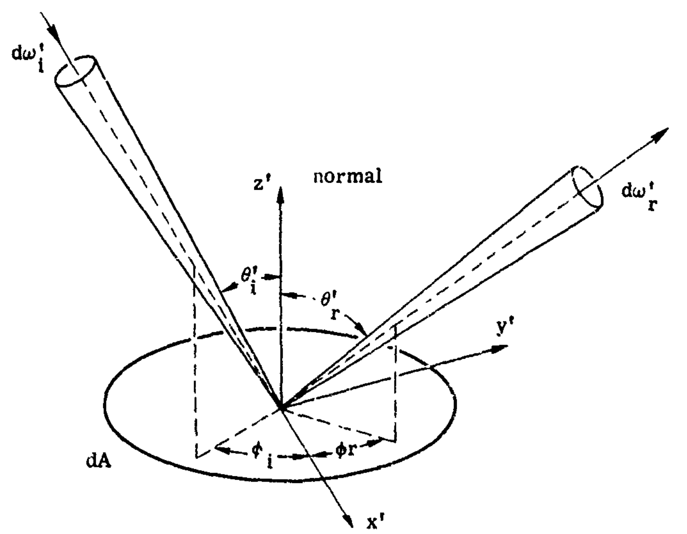

FIGURE 1. LOCAL COORDINATE SYSTEM FOR DETERMINING BIDIRECTIONAL REFLECTANCE

*The definitions presented in this report conform to those proposed in reference 4.

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Generally, ρ' is a function of the incident and reflected directions (θ_i', ϕ_i' and θ_r', ϕ_r' respectively), the polarization (P), the wavelength (λ), and the optical parameters of the material on either side of the surface. Total radiance in a given reflected direction is obtained by integrating equation 1 over all incident directions, which yields

$$L_r(\theta_r', \phi_r') = \int \rho' L_i(\theta_i', \phi_i') \cos \theta_i' d\omega_i' \tag{2}$$

Also, by Helmholtz's reciprocity theorem, if the directions of the incident and reflected pencils are interchanged, the bidirectional reflectance is unchanged, i.e.,

$$\rho'(\theta_1', \phi_1'; \theta_2', \phi_2'; P; \lambda) = \rho'(\theta_2', \phi_2'; \theta_1', \phi_1'; P; \lambda) \tag{3}$$

Since the optical constants of materials may change from point to point, bidirectional reflectance becomes a function of the location of dA. If it is then assumed that the surface can be described by $z' = f(x', y')$, the correct functional dependence for reflectance is

$$\rho'(\theta_i', \phi_i'; \theta_r', \phi_r'; P; \lambda; x', y', z')_{z'=f(x',y')}$$

Generally, the direction of the normal to dA is also a function of the location of dA on the surface of the object. Hence, even if the incident and reflected radiation have a constant direction with respect to the (x', y', z') coordinates, the angles (θ_i', ϕ_i') and (θ_r', ϕ_r') (taken with respect to the local normal) would be a function of location of the surface element dA. For convenience, a second, absolute coordinate system is usually introduced, viz., (x, y, z). The x-y plane of this system is coincident with the average value of $z' = f(x', y')$ along the surface A, and is, therefore, the "average" plane of the reflector. The normal to this average plane is parallel to the z axis. Instead of referring the incident and reflected radiation to the local coordinates, they are then referred to the absolute system, with θ as the polar angle and ϕ as the azimuthal angle. The bidirectional reflectance with respect to this system is

$$\rho'(\theta_i, \phi_i; \theta_r, \phi_r; P; \lambda; x, y)$$

Another type of reflectance commonly considered is the directional reflectance ρ_d which is a function of only one direction, either the incident or reflected direction. In the case where reflected power is integrated over a hemisphere and incident power is from a specific direction, directional reflectance is denoted by ρ_{di}. The incident power $d\Phi_i$ is

$$d\Phi_i = dL_i(\theta_i, \phi_i; P_i) \cos \theta_i \, d\omega_i \, dA \tag{4}$$

and, using equation 2,

$$dL_r = \rho' \frac{d\Phi_i}{dA} \tag{5}$$

Since the reflected power $d\Phi_r$ is given by

$$d\Phi_r = dA \int_{2\pi} dL_r \cos \theta_r \, d\omega_r = d\Phi_i \int_{2\pi} \rho' \cos \theta_r \, d\omega_r \tag{6}$$

therefore,

$$\rho_{di}(\theta_i, \phi_i; P; \lambda; x, y) = \int_{2\pi} \rho' \cos \theta_r \, d\omega_r \tag{7}$$

When dA is uniformly illuminated from all directions (L_i = constant), the corresponding directional reflectance, ρ_{dr}, is defined as the ratio of the radiance reflected in a given direction to the incident radiance. To proceed as previously,

$$L_r = \int_{2\pi} \rho' L_i \cos \theta_i \, d\omega_i = L_i \int_{2\pi} \rho' \cos \theta_i \, d\omega_i$$

and, thus,

$$\rho_{dr}(\theta_r, \phi_r; P; \lambda; x, y) = \int_{2\pi} \rho' \cos \theta_i \, d\omega_i \tag{8}$$

From comparison of equations 6 and 7,

$$\rho_{di}(\theta, \phi; P; \lambda; x, y) = \rho_{dr}(\theta, \phi; P; \lambda; x, y) = \rho_d \tag{9}$$

ρ_d is called directional reflectance.

2.2. INSTRUMENTATION

This section describes several types of instruments used to generate the optical data included in this compilation. An expression is derived for the "reflected quantity" measured by each type.

2.2.1. GENERAL ELECTRIC SPECTROPHOTOMETER.

A schematic diagram of this measurement apparatus [5] is presented in figure 2. Monochromatic radiation from the source passes through a Nicol prism (N_1) and then through a Wollaston prism (W_1) oriented to N_1 at an azimuth angle α. The prism W_1 converts the radiation into two linearly polarized beams, the polarization of one of which is perpendicular to that of the other. The beams then pass through a rapidly rotating Nicol prism (N_2) and into the integrating sphere where, with the same angle of incidence, one impinges on a reference and the other on the sample materials. A detector looks into the sphere in a direction perpendicular to the plane of the two incident beams. The integrating sphere is coated with a diffuse reflector (MgO), the reflectance of which is assumed independent of polarization.

If f is used to denote the frequency of rotation of N_2 and t the time, the subscripts 1 and 2 to distinguish the beams incident on reference and sample respectively, the symbols $\perp$ and $\parallel$

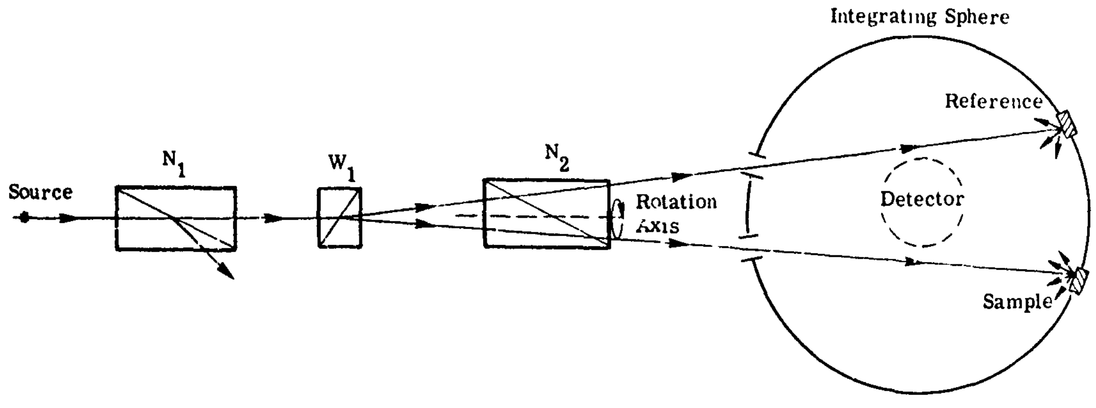

FIGURE 2. SCHEMATIC DIAGRAM OF THE GENERAL ELECTRIC SPECTROPHOTOMETER

to represent the polarizations perpendicular to each other, and the superscripts i and r to represent incident and reflected radiation respectively, then the power at the detector (except for a factor dependent on the reflectance of the sphere) is

$$\Phi = \Phi_1^r + \Phi_2^r \tag{10}$$

The beams emerging from W_1 are linearly polarized and their powers given by

$$\begin{aligned} \Phi_1' &= \Phi_0 \sin^2 \alpha \\ \Phi_2' &= \Phi_0 \cos^2 \alpha \end{aligned} \tag{11}$$

where Φ_0 is the power from N_1. The prism N_2 passes that portion of the power polarized in a fixed direction, so that

$$\begin{aligned} \Phi_1^i &= \Phi_1' \sin^2 (2\pi ft) = \Phi_0 \sin^2 \alpha \sin^2 (2\pi ft) \\ \Phi_2^i &= \Phi_2' \cos^2 (2\pi ft) = \Phi_0 \cos^2 \alpha \cos^2 (2\pi ft) \end{aligned} \tag{12}$$

If it is assumed that the directional reflectance of the reference, $\rho_{d,1}(\lambda)$, is independent of polarization,

$$\Phi_1^r = \rho_{d,1}(\lambda)\Phi_1^i = \rho_{d,1}(\lambda)\Phi_0 \sin^2 \alpha \sin^2 (2\pi ft) \tag{13}$$

If the polarization symbols $||$ and $\perp$ are taken to refer to the polarization parallel to the directions in which beam 2 emerging from N_2 is maximum and minimum, respectively, then the power reflected from the sample is

$$\Phi_2^r = \Phi_0 \cos^2 \alpha \cos^2 (2\pi ft)\left[\rho_{d,2}(||, \lambda) \cos^2 (2\pi ft) + \rho_{d,2}(\perp, \lambda) \sin^2 (2\pi ft)\right] \tag{14}$$

The power at the detector is then*

$$\Phi = \Phi_0\left\{\rho_1 \sin^2 \alpha \sin^2 (2\pi ft) + \cos^2 \alpha \cos^2 (2\pi ft)\left[\rho_2(||, \lambda) \cos^2 (2\pi ft) + \rho_2(\perp, \lambda) \sin^2 (2\pi ft)\right]\right\} \quad (15)$$

Rearranging terms gives

$$\Phi = 1/2 \left\{\rho_1(\lambda) \sin^2 \alpha + \cos^2 \alpha\left[\frac{3}{2}\rho^2 (||, \lambda) + \frac{1}{2}\rho_2(\perp, \lambda)\right]\right\}$$

$$- 1/2\left[\rho_1(\lambda) \sin^2 \alpha - \rho_2(||, \lambda) \cos^2 \alpha\right] \cos (4\pi ft)$$

$$+ 1/8\left[\rho_2(||, \lambda) - \rho_2(\perp, \lambda)\right] \cos (8\pi ft) \cos^2 \alpha \quad (16)$$

The a-c portion of the output from the detector, having a frequency of 2f, is fed to a motor which rotates N_1 so that it takes that position for which

$$\rho_1(\lambda) \sin^2 \alpha = \rho_2(||, \lambda) \cos^2 \alpha \quad (17)$$

A simple measurement of α allows $\rho_2(||, \lambda)$ to be computed from

$$\rho_2(||, \lambda) = \rho_1 \tan^2 \alpha \quad (18)$$

when the reflectance of the reference, $\rho_1(\lambda)$, is known. The directional reflectance ρ_2 is, of course, a function of the direction of incidence, and, therefore, the calculated value is correct only for that particular direction.

Since the incident beam is not infinitesimally narrow, it illuminates a finite, albeit small, area of the sample. Therefore, the computed directional reflectance of the sample is really the true reflectance averaged over the illuminated area,

$$\bar{\rho}_2(||, \lambda) = \frac{1}{A} \int_A \rho_2(||; \lambda; x, y)\, dx\, dy \quad (19)$$

where A is the illuminated area of the sample, and similarly for ρ_1. Hence, in terms of the reference $\bar{\rho}_1$, the reflectance of the sample is

$$\frac{\bar{\rho}_2(||, \lambda)}{\bar{\rho}_1(\lambda)} = \tan^2 \alpha$$

2.2.2. BECKMAN DK-2 SPECTROPHOTOMETER WITH REFLECTANCE ATTACHMENT. Figure 3 is an illustration of this measuring device. Monochromatic light is reflected from an oscillating plane mirror (M_1) alternately to one of two spherical mirrors (M_2 and M_3). M_1 is

*The subscript d has been dropped.

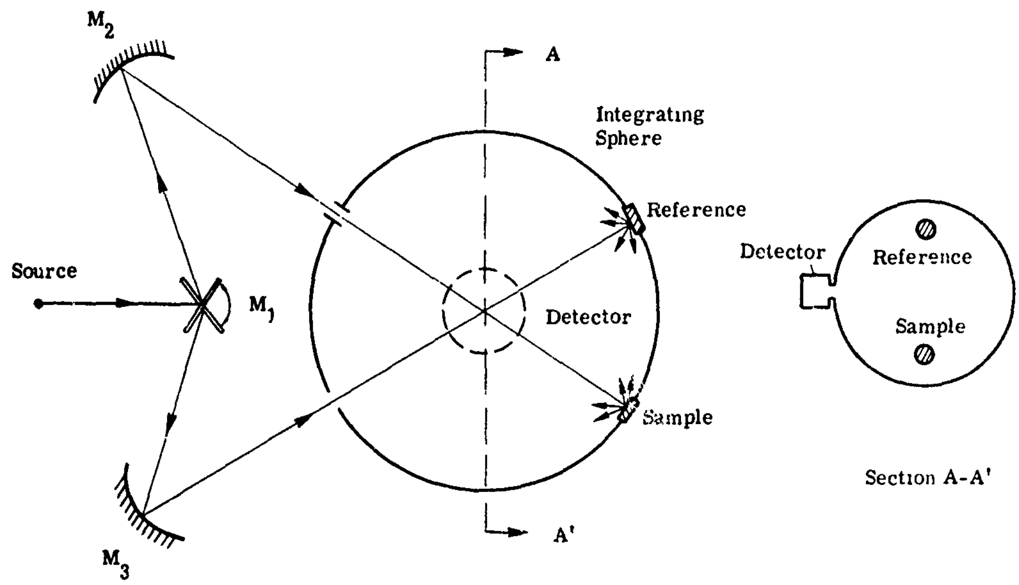

FIGURE 3. SCHEMATIC DIAGRAM OF THE BECKMAN SPECTROPHOTOMETER WITH REFLECTANCE ATTACHMENT

positioned in the focal planes of M_2 and M_3. Thus, the radiation is reflected alternately, with little divergence, onto the reference and the sample at normal incidence. The detector compares the reflected power from the reference and sample and gives the ratio of the two.

Because the monochromator is a prism instrument, the radiation incident on M_1 is slightly polarized. More polarization results from reflection from the plane and spherical mirrors. Radiation entering the integrating sphere is probably elliptically polarized. If the subscripts 1 and 2 are used for quantities referring to the reference and sample respectively, and $\rho_d(P, \lambda, n)$ is taken to represent the directional reflectance at normal incidence, wavelength λ, and polarization P, the reflected powers are

$$\Phi_1^r = \rho_{d,1}(\lambda, n)\Phi_0$$

$$\Phi_2^r = \rho_{d,2}(P, \lambda, n)\Phi_0 \tag{20}$$

where Φ_0 is the incident power of wavelength λ and polarization P. It is assumed that the reflectance of the reference is <u>not</u> polarization dependent.

Because the radiation is incident normal to the reflectors, that portion of the power which is specularly reflected will exit through the entrance ports undetected. If $\rho_s(P, \lambda, n)$ is taken as the specular reflectance for normal incidence, wavelength λ, and polarization P, then the specularly reflected powers are $\rho_{s,1}(\lambda, n)\Phi_0$ and $\rho_{s,2}(P, \lambda, n)\Phi_0$ for the reference and sample respectively. If the incident radiation had no divergence and filled the whole entrance port,

none of the specularly reflected radiation would be detected. However, because of the divergence of the incident beam and the configuration of the equipment, only a fraction k of this radiation would be undetected. Therefore, the detected powers are

$$\begin{aligned} \Phi_1^r &= [\rho_{d,1}(\lambda, n) - k\rho_{s,1}(\lambda, n)]\Phi_0 \\ \Phi_2^r &= [\rho_{d,2}(P, \lambda, n) - k\rho_{s,2}(P, \lambda, n)]\Phi_0 \end{aligned} \tag{21}$$

The same value of k is used for both reference and sample because of symmetry. The value reported by the detector represents the ratio

$$\frac{\rho_{d,2}(P, \lambda, n) - k\rho_{s,2}(P, \lambda, n)}{\rho_{d,1}(\lambda, n) - k\rho_{s,1}(\lambda, n)} = \frac{\Phi_1^r}{\Phi_2^r}$$

Again, the indicated reflectances are averages over the illuminated areas.

2.2.3. COBLENTZ HEMISPHERE USED BY NEW YORK UNIVERSITY. This measurement apparatus uses a hemispherical specular reflector (see fig. 4) with the sample and detector located a small distance from and diametrically opposite to the center of the sphere. Through an entrance port, well collimated, monochromatic radiation becomes incident on the sample at a fixed angle. Because of imaging problems associated with the off-center location of the sample, the aperture of the detector should be larger than the sample to guarantee that most of the radiation reflected from the hemisphere is detected. With $L_i(\lambda; P_i; \theta_i, \phi_i)$ representing the radiance with wavelength λ and polarization P_i incident on the sample in the direction (θ_i, ϕ_i), the radiance reflected by the sample, L_r, is

$$L_r(\lambda; P_r; \theta_r, \phi_r) = \rho'(\lambda; P_i; \theta_r, \phi_r; \theta_i, \phi_i)L_i \cos\theta_i d\omega_r \tag{22}$$

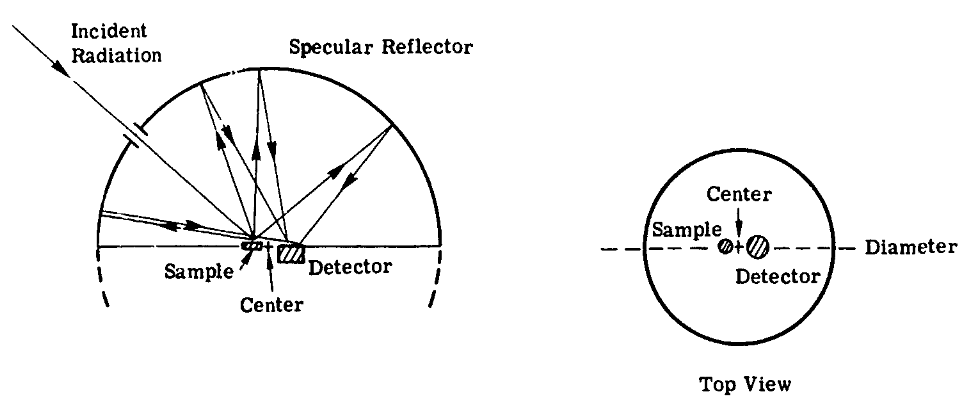

FIGURE 4. SCHEMATIC DIAGRAM OF THE COBLENTZ HEMISPHERICAL REFLECTANCE ATTACHMENT USED BY NEW YORK UNIVERSITY

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where the subscript r designates reflected radiation and ρ' is the bidirectional reflectance for incident polarization P_i. Given the directions of incidence and reflection, P_i, and λ, P_r may be determined.

If it can be assumed that the distance from the sample to the center of the sphere is very small compared to the radius of the sphere and that the area being illuminated is small, then the reflected radiance is approximately normally incident on the sphere. For normal incidence, the reflectance of the sphere, ρ_s, is independent of polarization of the incident radiation and depends only on its wavelength. The power Φ at the detector is, thus,

$$\Phi = \rho_s(\lambda)L_i \cos\theta_i\, d\omega_i A \int_{\omega_r=2\pi} \rho'(\lambda;\, P_i;\, \theta_r, \phi_r;\, \theta_i, \phi_i) \cos\theta_r\, d\omega_r \tag{23}$$

where N_i is taken as uniform across the illuminated area A, ω_r as the solid angle for reflection from the sample, and ρ' as the bidirectional reflectance averaged over A. From the definition for ρ_d,

$$\Phi = L_i \cos\theta_i\, d\omega_i A \rho_s(\lambda)\rho_d(\lambda;\, P_i;\, \theta_i, \phi_i) \tag{24}$$

By making two measurements, one with the sample and one with a reference having a directional reflectance $\rho_{d,1}$ which is known,

$$\frac{\rho_d(\lambda;\, P_i;\, \theta_i, \phi_i)}{\rho_{d,1}(\lambda;\, P_i;\, \theta_i, \phi_i)} = \frac{\Phi}{\Phi_1} \tag{25}$$

is obtained, where the power reflected from the reference and the reflectances are averaged over the illuminated areas.

Equation 24 represents the power incident in the plane of the detector. In reality, however, the acceptance angle of the detector, ω_d, is less than 2π, so the power received by the detector, Φ_{rec}, is given by

$$\Phi_{rec} = (\omega_d/2\pi)\Phi$$

At angles of grazing incidence in the plane of the detector, radiation is reflected by the detector and is strongly polarized. This radiation is reflected off the hemisphere and onto the sample. Therefore, there will be some error caused by multiple reflections, and these reflections will be more strongly polarized than the initial radiation from the monochromator.

2.2.4. PORTABLE SPECTROPHOTOMETER USED BY USAERDL. This instrument is shown in figure 5. White, unpolarized radiation from the source is reflected from a plane mirror (M_1) onto the sample. Radiation reflected from the sample is focused onto the detector aperture by a spherical mirror (M_2). The detector is located in the focal plane of M_2 and thus

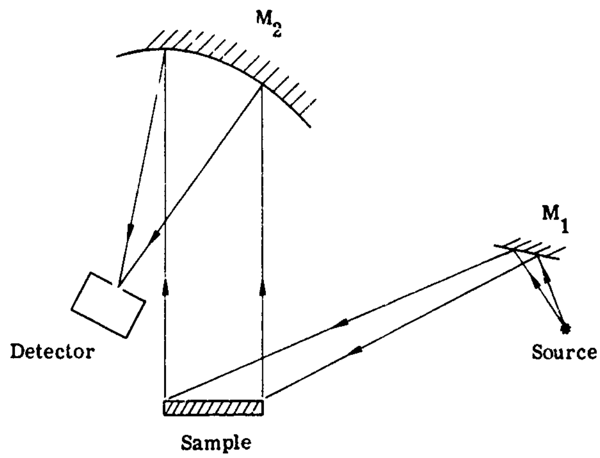


FIGURE 5. SCHEMATIC DIAGRAM OF THE USAERDL PORTABLE SPECTROPHOTOMETER

receives only the radiation reflected normally from the sample. In practice, the detector is a monochromator, so only radiation at a particular wavelength λ is sensed. The source and M_1 can be moved about to give different angles of incidence on the sample. As a result of reflection from M_1 the radiance incident on the sample is probably partially polarized.

The spectral radiance incident on an area dA of the sample located at (x, y) is $L_i(\lambda; P; \theta_i, \phi_i; x, y)$, where P is the polarization for the incident direction (θ_i, ϕ_i). For this particular configuration, (θ_i, ϕ_i) is determined by (x, y). The spectral power reflected normally ($\theta_r = 0^\circ$) by each dA is $d\Phi$:

$$d\Phi = dAL_i(\lambda, P)\left[\int_{\Delta\omega_i} \rho'(\lambda; P; \theta_i, \phi_i; n; x, y) \cos\theta_i \, d\omega_i\right] d\omega_r \tag{26}$$

where ρ' is the spectral bidirectional reflectance for radiation of polarization P which is incident from (θ_i, ϕ_i) on the area at (x, y) and reflected normally (indicated by the symbol n); $\Delta\omega_i$ is the solid angle of the source as seen from the sample, and it is assumed that L_i is constant* in each $\Delta\omega_i$. The total power Φ reflected normally by the sample (of area A) is

$$\Phi = L_i(\lambda, P)\left[\int_A \int_{\Delta\omega_i} \rho'(\lambda; P; \theta_i, \phi_i; n; x, y) \cos\theta_i \, d\omega_i \, dA\right] d\omega_r \tag{27}$$

*It has been assumed that $\Delta\omega_i$ is small enough so that a constant, meaningful polarization can be associated with the pencil of radiation.

For a reference with bidirectional reflectance ρ'_r that is independent of position and polarization, the detected power Φ is

$$\Phi' = L_i(\lambda, P)A \left[\int_{\Delta\omega_i} \rho'_r(\lambda;\ \theta_i,\ \phi_i;\ n)\ \cos\ \theta_i\, d\omega_i \right] d\omega_r \tag{28}$$

The ratio of the power detected from the sample to that from the reference is

$$\frac{\Phi}{\Phi'} = \frac{\int_{\Delta\omega_i} \bar{\rho}'(\lambda;\ P;\ \theta_i,\ \phi_i;\ n)\ \cos\ \theta_i\, d\omega_i}{\int_{\Delta\omega_i} \rho'_r(\lambda;\ \theta_i,\ \phi_i;\ n)\ \cos\ \theta_i\, d\omega_i} \tag{29}$$

where $\bar{\rho}$ is the average of ρ' over the area A, i.e.,

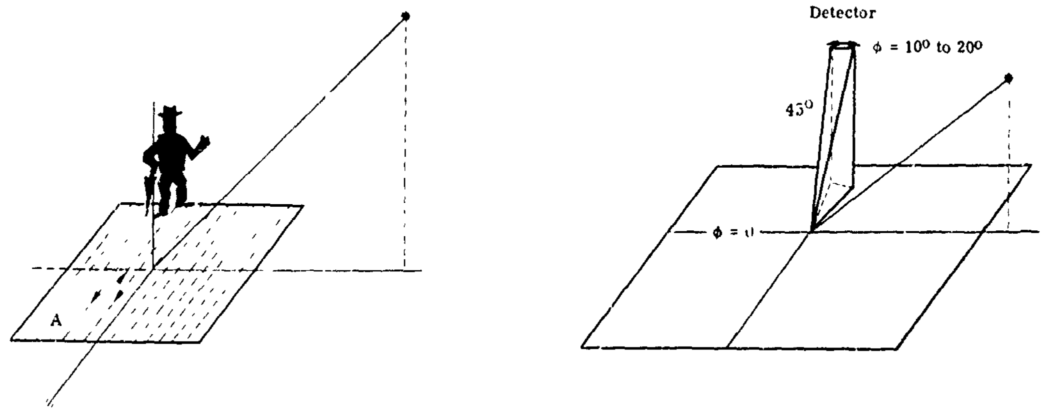
$$\bar{\rho}' = \frac{1}{A}\int_A \rho'\, dA \tag{30}$$

With $\Delta\omega_i$ so small that quantities may be considered constant throughout it, equation 29 becomes

$$\frac{\bar{\rho}'(\lambda;\ P;\ \theta_i,\ \phi_i;\ n)}{\rho'_r(\lambda;\ \theta_i,\ \phi_i;\ n)} = \frac{\Phi}{\Phi'} \tag{31}$$

In practice, the beam incident on the sample in this case is divergent. Since reflectance for most objects exhibits angular dependence, and since a divergent beam represents a range of incidence angles, it intuitively appears that the divergence angle will affect the final reflectance value.

2.2.5. KRINOV'S FIELD MEASUREMENTS. The methods described in this section were used for field measurements with the sun and a clear sky as the radiation source. The measurement procedure varied depending upon whether the surface measured was horizontal or vertical. For horizontal surfaces, the detector was oriented in one of two positions: looking directly downward or looking downward at 45° to the vertical. To establish a reference system for further discussion, all azimuth values are relative to the sun which is defined to be at an azimuth of 180°; angles are considered positive when measured clockwise from the zero-azimuth line. When looking downward, the detector was either moved back and forth along the 90°-270° line over a large area (cf. fig. 6a) or rotated 5° to 10° about a vertical axis coincident with its viewing direction (cf. fig. 6b). In the first case, when the detector was moved back and forth over a large area of the ground being observed, the instrument was always oriented normal to the ground. In effect, the measurement was bidirectional if it can be assumed that all the incident radiation emanates from the sun. Under this assumption, $\rho'(\theta_i, \phi_i; \theta_r, \phi_r) = \rho'(\theta_{sun}, 180; 0, 0)$. This measurement is integrated over the area of the ground observed. In the second case, the



(a) Horizontal surfaces: man walks over area A to be measured with the spectrograph; spectrograph is oriented normal to ground and looking downward for as much as 30 min.

(b) Horizontal surfaces: $\theta = 45^o$: $\phi = 270^o$: spectrograph rotated 10 to 20^o in azimuth.

FIGURE 6. SCHEMATIC DIAGRAM OF MEASUREMENT CONFIGURATION USED BY KRINOV

spectrograph was mounted on a tripod and directed at the sample at an angle of 45^o from the normal and an azimuth of 270^o. The spectrograph was then rotated on the tripod through an azimuth of 10^o to 20^o. When measuring vertical surfaces, i.e., trees, cliffs, or walls, the spectrograph was directed horizontally or slightly upward at the surface and at azimuths of 45^o or 315^o, and the instrument was then also rotated through a small azimuth.

Because the incident radiation comes from the sun and clear sky, the incident spectral radiance is very dependent on angle and not quite unpolarized (particularly in the blue region of the spectrum): $L_i(\lambda; P_i; \theta_i, \phi_i)$, with (θ_i, ϕ_i) the direction of incidence and P_i the polarization. Also, the time of day, season, and atmospheric condition act as variables. $d\Phi_s$ is the spectral power reflected by a surface element dA and into the rather large solid angle ω_D which subtends the detector:

$$d\Phi_s(\lambda) = dA \int_{\omega_D} d\omega_D \int_{\omega_i=2\pi} \rho'(\lambda; P_i; \theta_i, \phi_i; \theta_r, \phi_r) L_i(\lambda; P_i; \theta_i, \phi_i) \cos\theta_i \, d\omega_i \tag{32}$$

where (θ_r, ϕ_r) is the direction of reflectance, ω_i the solid angle of incidence, and ρ' the bidirectional reflectance. The recorder for this system is photographic film, hence the system records energy. Assuming the detector views an area A at any time and scans at a constant rate over a time T, and that L_i is independent of time, then the spectral energy reflected by the sample, $Q_s(\lambda)$, is

$$Q_s(\lambda) = TA \int_{\omega_D} d\omega_D \int_{\omega_i=2\pi} \bar{\rho}'(\lambda; P_i; \theta_i, \phi_i; \theta_r, \phi_r) L_i(\lambda; P_i; \theta_i, \phi_i) \cos\theta_i \, d\omega_i \tag{33}$$

where $\bar{\rho}'$ is ρ' averaged over the scanned area A_s, i.e.,

$$\bar{\rho}' = \frac{1}{A_s}\int_{A_s} \rho' \, dA$$

The sample can be replaced by a reference the reflectance of which, ρ_i' does not vary with position, and the film exposed for a time T without scanning. The reflected spectral energy $Q_R(\lambda)$ is then

$$Q_R(\lambda) = TA\int_{\omega_D} d\omega_D \int_{\omega_i=2\pi} \rho_r'(\lambda; P_i; \theta_i, \phi_i; \theta_r, \phi_r) L_i \cos\theta_i \, d\omega_i \qquad (34)$$

A comparison of $Q_s(\lambda)$ and $Q_R(\lambda)$ may then be made.

For a second case referred to above, the results are the same if A_s is set equal to A, since it may be assumed that A is imaged onto a small area of the film and the average of $Q_s(\lambda)$ over this small area is taken. With the detector pointed downwards at 45° to the vertical and at an azimuth of 90° or 225° the results are obtained as shown with appropriate changes in θ_r and ϕ_r. Similar equations may be derived for vertical surfaces.

2.2.6. HOHLRAUM REFLECTANCE ATTACHMENT. This interesting apparatus for determining spectral reflectance is shown in figure 7. It consists of a blackbody cavity with a

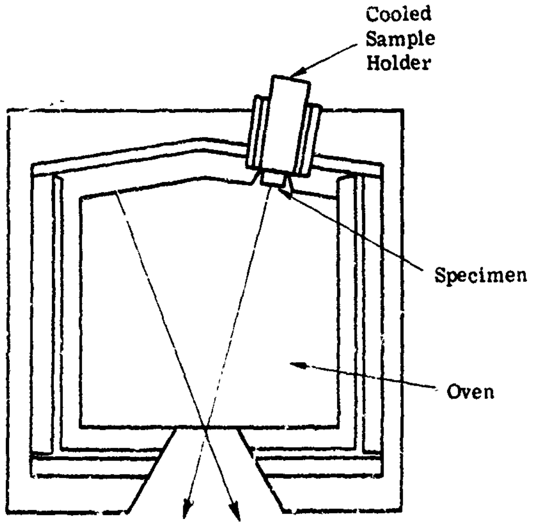


FIGURE 7. SCHEMATIC DIAGRAM OF THE HOHLRAUM REFLECTANCE ATTACHMENT

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viewing port. The viewing port is small enough so that the radiation in the cavity closely approximates the blackbody case, and the portions of the inner wall visible through the port occupy only a small solid angle. The sample is water cooled and is oriented with its normal at an angle of 13^o to the viewing direction. If dA is again taken to represent the area of the sample viewed and ρ' to represent the bidirectional reflectance, the spectral power Φ_r reflected by the sample through the viewing port is

$$\Phi_r(\lambda) = dA L_r(\lambda) \cos(13^o) d\omega_r = d\Sigma d\omega_s L_r(\lambda) \tag{35}$$

where $L_r(\lambda)$ is the reflected spectral radiance, $d\omega_r$ the solid angle subtended by the viewing port at the sample, $d\Sigma$ the area of the detector (considered small), and $d\omega_s$ the solid angle subtended by the sample at the detector ($d\omega_s$ is considered normal to $d\Sigma$).

$$L_r(\lambda) = \int_{\omega_i} \rho'(\lambda; P_i; \theta_i, \phi_i; \theta_r, \phi_r) L_i(\lambda) \cos \theta_i d\omega_i \tag{36}$$

where $L_i(\lambda)$ is the incident spectral radiance, (θ_i, ϕ_i) the incident direction, ω_i the angle subtended at the sample by the entrance to the sample holder, and P_i the polarization of the incident radiation. The incident radiation is blackbody type and hence unpolarized; furthermore, the incident spectral radiance is a constant. Therefore,

$$\Phi_r(\lambda) = d\Sigma d\omega_s L_i(\lambda) \int_{\omega_i} \rho'(\lambda; P_i; \theta_i, \phi_i; 13^o, \phi_r) \cos \theta_i d\omega_i \tag{37}$$

Next, the detector is moved to view a flat area dA of the cavity wall far from the sample holder. The resulting spectral power, Φ_w, there is

$$\Phi_w(\lambda) = dA d\omega_w L_i(\lambda) \cos \theta_w = d\Sigma d\omega_s L_i(\lambda) \tag{38}$$

where θ_w is the angle between the viewing direction and the normal to the wall, and $d\omega_w$ is the solid angle subtended by the viewing port at the area dA on the wall. The ratio of the spectral powers detected is

$$\frac{\Phi_w(\lambda)}{\Phi_s(\lambda)} = \int_{\omega_i} \rho'(\lambda; P_i; \theta_i, \phi_i; 13^o, \phi_r) \cos \theta_i d\omega_i \tag{39}$$

Hence, the detector can be interpreted as giving the spectral bidirectional reflectance for unpolarized light, integrated over the projected solid angle of the source (as seen by the sample). Since it was assumed that the detector viewed only a very small area, dA, of the sample, the

bidirectional reflectance appearing under the integral applies only to that area. In some instances, the sample has been placed at the wall of the Hohlraum cavity instead of further into the sample holder. The ratio of powers detected is then

$$\frac{\Phi_w(\lambda)}{\Phi_s(\lambda)} = \int_{\omega_i=2\pi} \rho'(\lambda;\ P_i;\ \theta_i, \phi_i;\ 13^\circ, \phi_r) \cos\theta_i \, d\omega_i = \rho_d(\lambda;\ P_i;\ 13^\circ, \phi_r)$$

Once again, the reflectance measured is an average over the illuminated area.

2.3. (U) ABSOLUTE REFLECTANCE

As is apparent from the earlier discussion, the measurement of reflectance is usually made relative to an arbitrary standard, and it is presented in that manner in many cases in this compilation. To convert such data to absolute values requires knowledge of the absolute reflectance of the standard used. An absolute measurement is of the following form:

$$\rho_d\left(\theta_i, \phi_i\right)_{abs} = \frac{p_{r,x}}{p_i} \tag{40}$$

where p_i is the power incident on the sample in the direction (θ_i, ϕ_i), and $p_{r,x}$ is the power reflected into a hemisphere by the sample. On the other hand, a relative measurement has the form

$$\rho_d\left(\theta_i, \phi_i\right)_{rel} = \frac{p_{r,x}}{p_{r,st}} \tag{41}$$

where, again, $p_{r,x}$ is the power reflected into a hemisphere by the sample, while $p_{r,st}$ is the power reflected into a hemisphere by some reflectance standard.

If the absolute directional reflectance of the standard, $\rho_{d,st}\left(\theta_i, \phi_i\right)_{abs}$ is known, the absolute reflectance of the sample can be calculated:

$$\rho_d\left(\theta_i, \phi_i\right)_{abs} = \frac{p_{r,st}}{p_i}$$

or

$$p_{r,st} = \rho_{d,st}\left(\theta_i, \phi_i\right)_{abs} p_i \tag{42}$$

Substituting equation 42 into equation 41 yields

$$\rho_d\left(\theta_i, \phi_i\right)_{rel} = \frac{p_{r,x}}{\rho_{d,st}\left(\theta_i, \phi_i\right)_{abs} p_i}$$

$$\rho_d\left(\theta_i, \phi_i\right)_{rel} = \frac{\rho_d\left(\theta_i, \phi_i\right)_{abs}}{\rho_{d,st}\left(\theta_i, \phi_i\right)_{abs}}$$

and, therefore,

$$\rho_d\left(\theta_i, \phi_i\right)_{abs} = \rho_d\left(\theta_i, \phi_i\right)_{rel} \rho_{d,st}\left(\theta_i, \phi_i\right)_{abs}$$

Thus, to obtain absolute values of the reflectance of a sample, it is necessary to multiply the relative reflectance of the sample by the absolute reflectance of the standard as measured at the same wavelength, incidence angle, etc.

To facilitate these computations, recommended values for the absolute reflectance of three commonly used reflectance standards, MgO, $BaSO_4$, and $MgCO_3$, are presented in figures 8 through 10. The reader is cautioned that although these curves are considered to represent the best data currently available, they are nevertheless subject to the errors inherent in the instrumentation used. If highly accurate results are necessary, the references cited should be consulted for a description of the measurement techniques and error analyses associated with the data. Section 4.2 indicates which of the optical data are reported as absolute and which as relative. For the relative data, the reflectance standard has also been designated.

It should also be noted that even after corrections for the standard are applied to data in this compilation, the curves may or may not more truly represent absolute reflectance. This

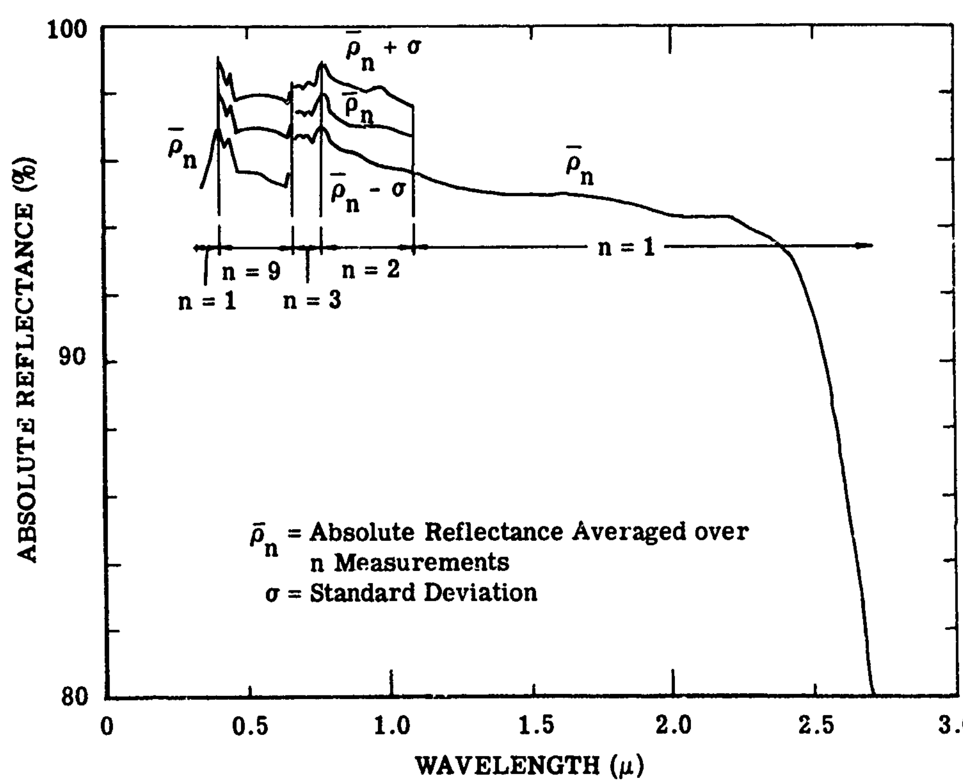

FIGURE 8. ABSOLUTE REFLECTANCE OF SMOKED MgO [6, 7, 8]

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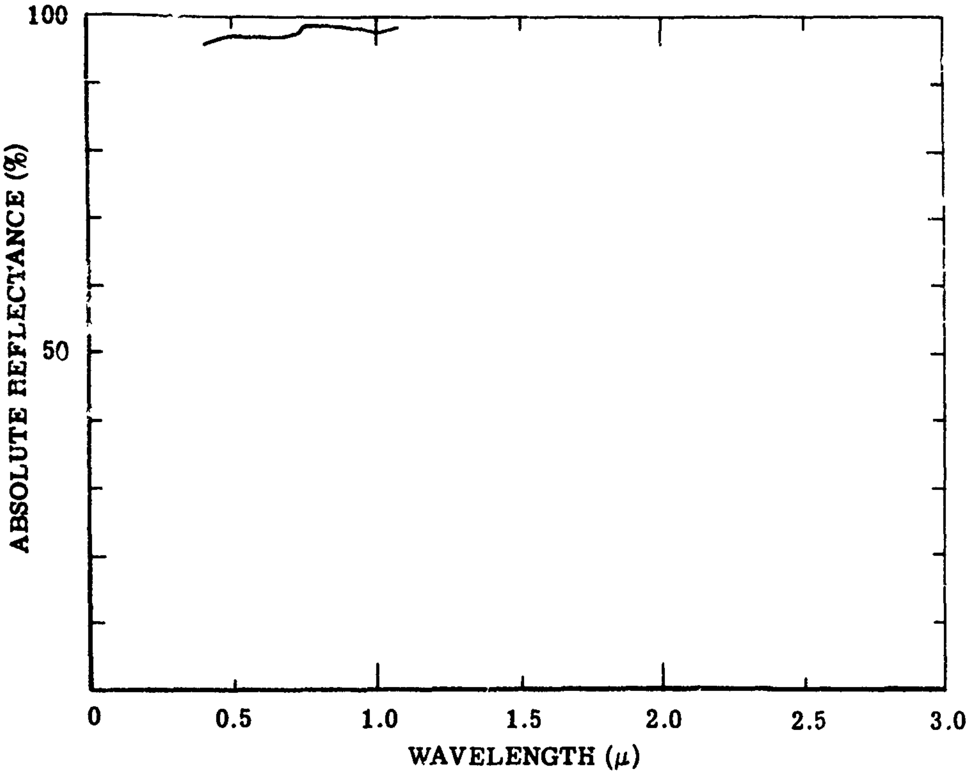

FIGURE 9. ABSOLUTE REFLECTANCE OF PRESSED $BaSO_4$ [7]

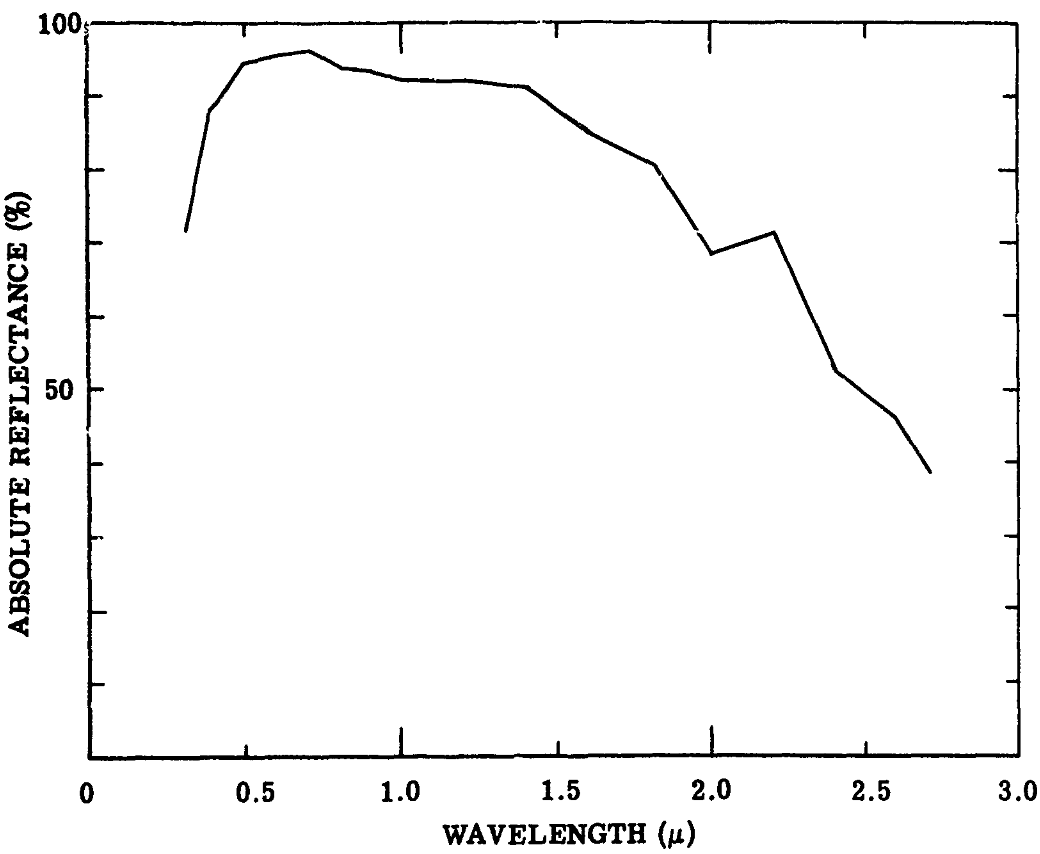

FIGURE 10. ABSOLUTE REFLECTANCE OF PRESSED $MgCO_3$ [6]

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is because the reflectance of such standards may vary within a few percent on the basis of preparation techniques, thickness and age of the samples, their exposure to ultraviolet radiation, etc. Since very few of the experiments considered have indicated in their reports the absolute reflectance of the standard used or completely described its preparation, it is impossible to say that the absolute reflectance shown in figures 8 through 10 is identical to that of the standard used in a given experiment.

3
CUMULATIVE SUBJECT CROSS INDEX

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4
OPTICAL DATA

4.1. DATA FORMAT

In order to transfer a data curve from a source document to the Target Signature Library, the curve is first semi-automatically digitized and keypunched on IBM cards. Great care is exercised to preserve all significant details of the original curve except those attributable to instrument noise. Data points are taken in such a way that the new curve formed by connecting the data points with straight lines will duplicate the original curve. In essence, this amounts to taking data points at all significant inflection points on the original curve, so that relatively few data points are required to describe a smooth curve, although many points may be required to describe a highly erratic curve. The keypunched cards are the mechanism for transferring the data to magnetic tape in the Target Signature Library and for printing out data curves in a standard format on a plotting machine. All curves presented in this report have been prepared by this process.

The header information above each curve in section 4.3 includes the curve's identification number, the curve's title, subject codes, and parameter information. The identification number consists of the internal control letter B and eight digits. The first five digits identify the document from which the data were taken. (Sections 4.2 and 7 list the documents by control letter and these five digits.) The last three digits of the identification number have been arbitrarily assigned by the Target Signature Analysis Center for retrieval and to identify a particular curve within a given source document. The subject code is a group of letters assigned to each curve to permit retrieval by subject. Each letter represents a specific descriptor, and each curve is assigned as many letters and as many codes as are required to describe it adequately. The Target Signature Subject-Code List (table I) explains these codes. As an example, a curve may be described as follows:

Object measured: loam (BFEA)

Instrumentation: General Electric spectrophotometer (CDB)

Experimental platform: Laboratory (CED)

Quantity measured: Directional reflectance with the specular component included in the measurement (DFAA)

Reflectance standard: MgO (DFCE)

Spectral interval: 0.4 to 0.7 μ (ECB) and 0.7 to 1.5 (ECCA)

The conditions of the experiment, called parameter information, are also listed on the printed header in abbreviated form. This information is derived from the original source when possible. For many of the data, very few parameter entries appear because the source did not document all of the experimental parameters or because the same parameters are not applicable to all measurements, e.g., altitude and range are not parameters for laboratory measurements. Table II is the key for interpreting this parameter information.

The optical data in section 4.3 are arranged according to the subject code most descriptive of the object or sample measured. Since the Target Signature Subject-Code List contains a large number of specific types of target and background categories, it was necessary in some cases to group the data into somewhat broader categories. These are cross-indexed by subject in section 3.

TABLE II. OPTICAL DATA PARAMETERS
Unclassified

DATE	Date of measurement (day, month, and year)
TIME	Time of measurement (24-hour clock)
LAT	Latitude of measurement (field measurement) or of location at which specimen was collected (laboratory measurement)
LONG	Longitude of measurement or of location at which specimen was collected, as with LAT
ALT	Altitude of experimental platform (thousands of feet)
RANGE	Slant range (thousands of feet)
DAYS RE	Number of days sample had been removed from its natural environment
IN*	Incidence angle (degrees from normal)
IAZ*	Azimuth of incident radiation (degrees)
CN**	Collection angle (degrees from normal)
CAZ**	Azimuth of collection angle (degrees)
IRR	Type of target irradiation coded as follows: A Sun B Moon C Skylight (extended source) D Laser E Other artificial point sources
OBST	Obstructions in the air that prevent a clear view of the target, coded as follows: A Smoke B Haze C Dust D Sand E Fog F Drizzle G Rain H Snow I Hail
TTEMP	Temperature of target or measured object (°K)
WIND SP	Average wind speed (mph)
WIND DI	Wind direction
CLD	Total cloud cover coded as follows: A 0 to 0.1 B 0.2 to 0.5 C 0.6 to 0.8 D 0.9 to 1.0
VIS	Visibility (miles)
TEMP	Temperature of environment (°F)
DEW PT	Dew point temperature (°F)
N AVE	Number of curves or measurements averaged to make up this curve

*These angles are defined only if the major portion of radiation incident on the target comes from a point source, e.g., the sun (see fig. 11).

**These angles are defined when the target is observed from one direction (see fig. 11).

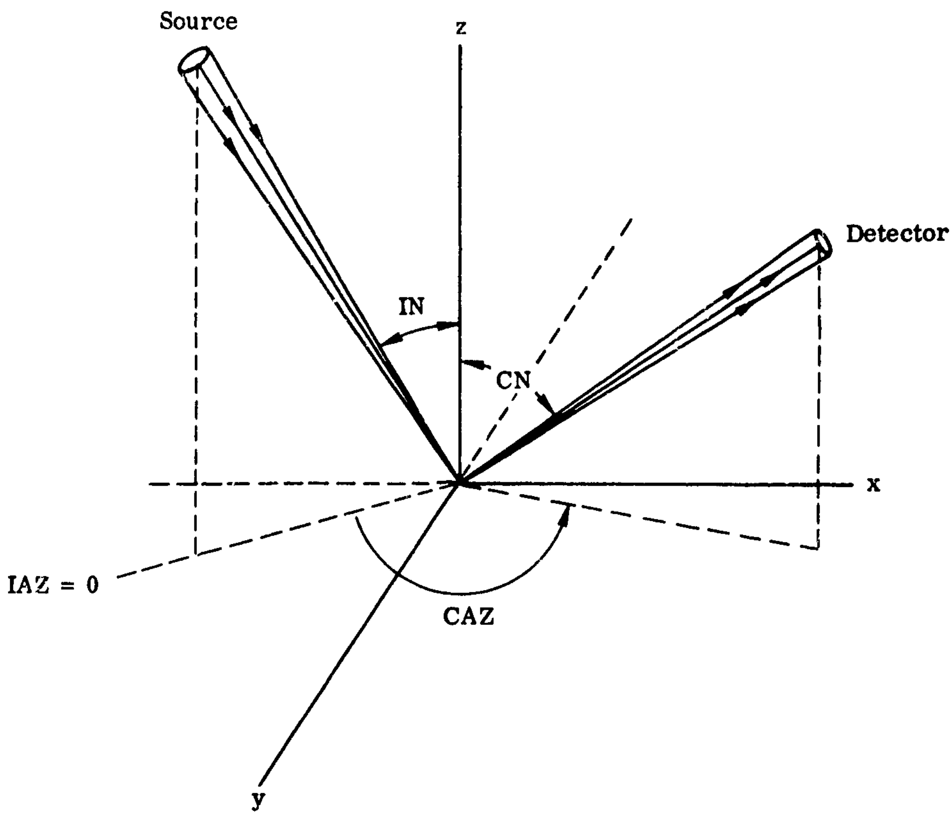

FIGURE 11. GEOMETRY FOR SOME SPECIFIED OPTICAL DATA PARAMETERS

4.2. SUMMARY OF EXPERIMENTS YIELDING OPTICAL DATA

The documents from which the optical data have been extracted are briefly summarized below. These summaries are included to facilitate use of the data presented in section 4.3. Information on the experimental platform, instrumentation, reflectance standards (for relative data) and other related matters has been included, and additional references describing some of the instrumentation in greater detail are cited. As already indicated, the code consisting of the letter B and five digits at the beginning of each entry is the accessions number assigned to the document by the Target Signature Analysis Center. All curves extracted from the document carry this accessions number plus a number from 001 to 999, which is an arbitrary designation assigned to specific curves. The two numbers together constitute a curve's identification number. Bibliographical information on each of the documents summarized here is included in order of accessions numbers in section 7, and the user is referred to the original source if more detailed information is required.

B-00829

Platform: laboratory
Instrument: USAERDL spectrophotometer (original design)

Quantity measured: ρ_d
Wavelength range: 0.9 to 2.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Comments: This instrument is no longer in operation. Basically, it consisted of a Gaertner monochromator coupled with an integrating sphere.

B-00830

Platform: laboratory
Instrument 1: Beckman DU spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.2 μ
Reflectance attachment: ellipsoidal mirror that collects radiation diffusely reflected from the sample

Reflectance standard: MgO
Additional reference: 9

Instrument 2: USAERDL spectrophotometer (original design)

Quantity measured: ρ_d
Wavelength range: 0.9 to 2.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Comments: This instrument is no longer in operation. Basically, it consisted of a Gaertner monochromator coupled with an integrating sphere.

B-01035

Platform: airborne
Instrument: Perkin-Elmer 108 rapid-scan spectrometer

Quantity measured: α (albedo)
Wavelength range: 0.4 to 3.0 μ

Reflectance standard: Data are absolute
Comments: These data were obtained by rotating a periscope (installed through a hole in the side of the aircraft) 180° to alternately view the sky radiation and that reflected by the earth.

B-01049

Platform: laboratory
Instrument: Beckman DU spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.1 μ
Reflectance attachment: ellipsoidal mirror that collects radiation diffusely reflected from the sample

Reflectance standard: $MgCO_3$
Additional reference: 9

B-01175

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 2: Perkin-Elmer 12-B spectrometer

Quantity measured: ρ_d
Wavelength range: 1.0 to 2.7 μ
Reflectance attachment: Coblentz hemisphere

Reflectance standard: MgO
Additional references: 12, 13
Comments: see section 2.2.3

B-01176

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01337

Platform: ground-based field
Instrument: USAERDL portable spectrophotometer

Quantity measured: ρ'
Wavelength range: 0.25 to 2.5 μ
Reflectance attachment: collecting mirror

Reflectance standard: measured relative to thermoglass and values converted to MgO
Additional reference: 14
Comments: see section 2.2.4

B-01339

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01352

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01353

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01367

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01368

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-01370

Platform: airborne
Instrument: Eastman Kodak spectrogeograph

Quantity measured: α (albedo)
Wavelength range: 0.43 to 0.73 μ

Reflectance standard: Data are absolute.
Comments: The data were obtained by rotating a periscope (installed through a hole in the side of the aircraft) 180° to alternately view the sky radiation and that reflected by the earth. The spectrophotometric curves obtained were derived from densitometer readings of spectrograms.

B-01643

Platform: ground-based field
Instrument: USAERDL portable spectrophotometer

Quantity measured: ρ'
Wavelength range: 0.25 to 2.5 μ
Reflectance attachment: collecting mirror

Reflectance standard: measured relative to thermoglass and values converted to MgO
Additional reference: 14
Comments: see section 2.2.4

B-01761

Platform: laboratory
Instrument: spectrophotometer (original design)

Quantity measured: ρ_d
Wavelength range: 0.43 to 0.70 μ
Reflectance attachment: integrating sphere

Reflectance standard: $MgCO_3$

B-01818

Platform: laboratory
Instrument 1: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 2.5 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Comments: see section 2.2.2

Instrument 2: Perkin-Elmer Model 12 and Model 112 spectrophotometers

Quantity measured: ρ_d
Wavelength range: 2.5 to 15 μ
Reflectance attachment: Coblentz hemisphere

Reflectance standard: Specular samples were measured relative to a rhodium mirror and diffuse samples relative to flowers of sulphur. Data have been converted to absolute values.
Comments: see section 2.2.3

B-01948

Platform: laboratory
Instrument: photometric goniometer (original design)

Quantity measured: ρ', τ' (bidirectional transmittance)
Wavelength range: 0.35 to 0.75 μ

Reflectance standard: bond paper
Comments: Reflectance data were obtained by focusing monochromatic light on the sample at normal incidence, then examining the reflected component at 10° off normal. Bond paper, believed by the experimenter to have scattering properties similar to those of foliage, was measured in the same way, and the ratio of the two quantities is the reported reflectance. Transmittance measurements relative to bond paper were also made.

B-02250

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: For transmittance measurements, the sample was placed at one of the entrance ports of the sphere, and MgO covered both the sample and reference ports. (See section 2.2.1.)

B-02418

Platform: laboratory
Instrument: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.28 to 2.6 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Comments: see section 2.2.2

B-03070

Platform: laboratory
Instrument I: General Electric spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: See section 2.2.1. For transmittance measurements, the sar ple was placed at one of the entrance ports of the sphere, and MgO covered bot . sample and reference ports.

Instrument 2: Cary 14 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.385 to 2.2 μ
Reflectance attachment: integrating sphere (Cary 1411)

Reflectance standard: MgO
Additional reference: 15
Comments: Operation is similar to that of the integrating sphere discussed in section 2.2.2. However, in this experiment the sample was illuminated with wh.te light, and the radiation was spectrally dispersed after reflection. Also, the sample was viewed at 60^{o} off normal.

B-03117

No such descriptive information on these data was available.

B-03231

Platform: laboratory
Instrument: Perkin-Elmer spectrophotometer

Quantity measured: ρ_d
Wavelength range: 1.0 to 15.0 μ
Reflectance attachment: Hohlraum

Reflectance standard: Data are absolute.
Comments: see section 2.2.6

B-03256

Platform: laboratory
Instrument: goniometer coupled with a Wadsworth-Littrow spectrometer

Quantity measured: ρ_d
Wavelength range: 0.55 to 2.5 μ
Reflectance attachment: see comments below

Reflectance standard: Data are absolute.
Comments: Measurement of diffuse reflectance was obtained by illuminating the sample with monochromatic light and automatically scanning the detector about the sample. The detector thus recorded the reflectance integrated over 180°. This process was repeated at several discrete wavelengths.

B-03258

Platform: ground-based field and airborne
Instrument: albedometer (original design)

Quantity measured: α (albedo)
Wavelength range: 0.4 to 0.65 μ
Reflectance attachment: integrating sphere

Reflectance standard: unspecified, if any
Additional reference: 16
Comments: No information on whether the data are absolute or relative was available.

B-03303

Platform: laboratory
Instrument 1: Beckman DU spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.235 to 0.70 μ
Reflectance attachment: ellipsoidal mirror that collects radiation diffusely reflected from the sample

Reflectance standard: MgO
Additional reference: 9

Instrument 2: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-03304

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 2: Perkin-Elmer infrared spectrometer

Quantity measured: ρ_d
Wavelength range: 0.7 to 2.6 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 12, 17
Comments: This instrument is similar in operation to the Beckman DK-2 spectrophotometer discussed in section 2.2.2.

B-03305

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.431 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-03333

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 2: Cary 14 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.26 to 2.2 μ
Reflectance attachment: integrating sphere (Cary 1411)

Reflectance standard: MgO
Additional reference: 15
Comments: Operation is similar to that of the integrating sphere discussed in section 2.2.2. However, in this experiment the sample was illuminated with white light, and the radiation was spectrally dispersed after reflection. Also, the sample was viewed at 60° off normal.

Instrument 3: Cary 90 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 2.5 to 15 μ
Reflectance attachment: White hemisphere

Reflectance standard: Data are absolute
Additional reference: 18
Comments: The White attachment is basically a Coblentz-type hemisphere (see sec. 2.2.3). The sample was hemispherically illuminated with white light, and the reflected radiation was viewed slightly off normal.

B-03355

Platform: laboratory
Instrument: see comments below

Quantity measured: ρ_d, τ
Wavelength range: 0.4 to 15.0 μ
Reflectance attachment: see comments below

Reflectance standard: see comments below
Comments: Several unpublished, miscellaneous curves from various sources are collected here. Curves B-03355-001 through B-03355-006 are transmission data on optical materials, and no descriptive information on the instrumentation for them was available. Curves B-03355-007 through B-03355-009 are the reflectance of water from 1 to 15 μ, for angles of incidence of 0^{o}, 60^{o}, and 80^{o}. Again, no descriptive information on this experiment was available. Curves B-03355-010 through B-03355-037 are reflectance data on foliage species for the visible and near-infrared regions and appear to be standard spectrophotometric curves (ρ_d). Curves B-03355-039 through B-03355-046 are the reflectance (ρ_d) of paints in the 0.4 to 2.6-μ interval and are believed to have been obtained, relative to MgO, on the Beckman DK-2 spectrophotometer (see sec. 2.2.2). Curves B-03355-047 through B-03355-053 were obtained on the Bausch and Lomb spectrophotometer (see discussion under B-04642). Every effort is being made to obtain more information on these data.

B-03374

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-03463

Platform: laboratory
Instrument 1: Cary 14 spectrophotometer

Quantity measured: ρ'
Wavelength range: 0.4 to 2.5 μ
Reflectance attachment: Cary Model 1413 specular-reflectance attachment

Reflectance standard: aluminum mirror
Comments: Angle of incidence was 8^{o} off normal.

Instrument 2: Beckman IR-7 spectrophotometer

Quantity measured: ρ'
Wavelength range: 2.5 to 15 μ
Reflectance attachment: Cary Model 24425 specular-reflectance attachment

Reflectance standard: aluminum mirror
Comments: Angle of incidence was 30° off normal.

B-03559

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 2: Cary 14 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.26 to 2.2 μ
Reflectance attachment: integrating sphere (Cary 1411)

Reflectance standard: MgO
Additional reference: 15
Comments: Operation is similar to that of the integrating sphere discussed in section 2.2.2. However, in this experiment, the sample was illuminated with white light, and the radiation was spectrally dispersed after reflection. Also, the sample was viewed at 60° off normal.

Instrument 3: Cary 90 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 2.5 to 15 μ
Reflectance attachment: White hemisphere

Reflectance standard: Data are absolute
Additional reference: 18
Comments: The White attachment is basically a Coblentz-type hemisphere (see sec. 2.2.3). The sample was hemispherically illuminated with white light, and the reflected radiation was viewed slightly off normal.

B-03804

Platform: laboratory
Instrument 1: original design using a Perkin-Elmer monochromator

Quantity measured: ρ_d
Wavelength range: 0.3 to 0.4 μ and 0.7 to 2.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Comments: The instrument is similar in operation to the Beckman DK-2 spectrophotometer discussed in section 2.2.2, except that it is operated in the single-beam mode. Ratio recording is achieved by the substitution method.

Instrument 2: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-03856

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 2: Original design using a Perkin Elmer monochromator

Quantity measured: ρ_d
Wavelength range: 0.3 to 0.4 μ and 0.7 to 2.7 μ
Reflectance attachment: Integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Comments: This instrument is similar to the integrating sphere device described in section 2.2.2. The sample and reference are alternately illuminated with monochromatic energy at 9° off normal.

B-03959

Platform: laboratory
Instrument 1: Perkin-Elmer 98 monochromator coupled with an integrating sphere (original design)

Quantity measured: ρ_d
Wavelength range: 0.33 to 2.5 μ
Reflectance attachment: integrating sphere

Reflectance standard: Data are absolute
Additional reference: 19
Comments: This instrument operates in the single-beam mode.

Instrument 2: Perkin-Elmer 98 monochromator with Hohlraum attachment

Quantity measured: ρ_d
Wavelength range: 1.5 to 15 μ
Reflectance attachment: Hohlraum

Reflectance standard: Data are absolute
Additional references: 20 through 24
Comments: see section 2.2.6

B-03960

Platform: laboratory
Instrument: Perkin-Elmer Model 13 and Model 20 spectrophotometers

Quantity measured: ρ'
Wavelength range: 5 to 15 μ
Reflectance attachment: specular-reflectance attachment

Reflectance standard: not specified

B-03995

Platform: Ground-based field and airborne
Instrument: several spectrographs

Quantity measured: ρ'
Wavelength range: 0.4 to 0.9 μ
Reflectance attachment: none

Reflectance standard: barite paper, gypsum
Comments: see section 2.2.5

B-04424

Platform: laboratory
Instrument: interferometric device

Quantity measured: ρ'
Wavelength range: 0.95 to 2.7 μ

Reflectance standard: flowers of sulphur

B-04616

Platform: laboratory
Instrument: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.5 to 2.5 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO for ρ_d, but values of τ_d are absolute
Comments: For transmittance measurements, the sample was positioned at one of the entrance ports of the integrating sphere, and MgO was placed at both the sample and reference ports (cf. fig. 3). Thus, energy transmitted into a hemisphere was seen by the detector. (See section 2.2.2.)

B-04642

Platform: laboratory
Instrument: Bausch and Lomb 808 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO

B-04802

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.08 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-04803

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: ρ_d data obtained relative to MgO, but values converted to absolute; values of τ_d are absolute
Additional references: 5, 10, 11
Comments: For transmittance measurements, the sample was placed at one of the entrance ports of the integrating sphere, and MgO covered both the sample and reference ports. (See section 2.2.1.)

Instrument 2: Perkin-Elmer infrared spectrometer

Quantity measured: ρ_d, τ_d
Wavelength range: 1.0 to 2.7 μ
Reflectance attachment: Coblentz hemisphere

Reflectance standard: ρ_d data obtained relative to MgO, but converted to absolute; values of τ_d are absolute
Additional references: 12, 13
Comments: see section 2.2.3

B-04804

Platform: laboratory
Instrument 1: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.5 to 2.5 μ
Reflectance attachment: integrating sphere

Reflectance standard: unspecified
Comments: see section 2.2.2

Instrument 2: Cary 90 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 2.5 to 6.0 μ
Reflectance attachment: White hemisphere

Reflectance standard: Data are absolute
Additional reference: 18
Comments: The White attachment is basically a Coblentz type hemisphere (see sec. 2.2.3). The sample was hemispherically illuminated with white light, and the reflected radiation was viewed slightly off normal.

B-04805

Platform: laboratory
Instrument 1: Beckman DU spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.22 to 0.4 μ
Reflectance attachment: ellipsoidal mirror that collects radiation diffusely reflected from the sample

Reflectance standard: ρ_d data obtained relative to MgO, but values converted to absolute; values of τ_d are absolute
Additional reference: 9

Instrument 2: General Electric spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: ρ_d data obtained relative to MgO, but values converted to absolute; values of τ_d are absolute
Additional references: 5, 10, 11
Comments: For transmittance measurements, the sample was placed at one of the entrance ports of the integrating sphere, and MgO covered both the sample and reference ports. (See section 2.2.1.)

Instrument 3: Perkin-Elmer infrared spectrometer

Quantity measured: ρ_d, τ_d
Wavelength range: 1.0 to 2.7 μ
Reflectance attachment: Coblentz hemisphere

Reflectance standard: ρ_d data obtained relative to MgO, but converted to absolute; values of τ_d are absolute
Additional references: 12, 13
Comments: see section 2.2.3

B-04806

Platform: laboratory
Instrument 1: Beckman DU spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.22 to 0.4 μ
Reflectance attachment. ellipsoidal mirror that collects radiation diffusely reflected from the sample

Reflectance standard: ρ_d data obtained relative to MgO, but values converted to absolute; values of τ_d are absolute
Additional reference: 9

Instrument 2: General Electric spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: ρ_d data obtained relative to MgO, but values converted to absolute; values of τ_d are absolute
Additional references: 5, 10, 11
Comments: For transmittance measurements, the sample was placed at one of the entrance ports of the integrating sphere, and MgO covered both the sample and reference ports. (See section 2.2.1.)

Instrument 3: Perkin-Elmer infrared spectrometer

Quantity measured: ρ_d, τ_d
Wavelength range: 1.0 to 2.7 μ
Reflectance attachment: Coblentz hemisphere

Reflectance standard: ρ_d data obtained relative to MgO, but converted to absolute; values of τ_d are absolute
Additional references: 12, 13
Comments: see section 2.2.3

B-04979

Platform: laboratory
Instrument 1: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.25 to 2.5 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to MgO, but values converted to absolute
Comments: see section 2.2.2

Instrument 2: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Additional references: 5, 10, 11
Comments: see section 2.2.1

Instrument 3: Perkin-Elmer spectrophotometer

Quantity measured: ρ_d
Wavelength range: 1.25 to 15 μ
Reflectance attachment: Hohlraum

Reflectance standard: Data are absolute
Comments: see section 2.2.6

B-05289

Platform: laboratory
Instrument 1: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.4 to 1.0 μ
Reflectance attachment: integrating sphere

Reflectance standard: data obtained relative to $MgCO_3$, but values converted to absolute
Comments: see section 2.2.1

Instrument 2: Original design using a Perkin-Elmer 83 monochromator

Quantity measured: ρ_d
Wavelength range: 1 to 25 μ
Reflectance attachment: Hohlraum

Reflectance standard: Data are absolute
Additional reference: 25
Comments: A Hohlraum device is discussed in section 2.2.6.

B-05370

Platform: laboratory
Instrument: General Electric spectrophotometer

Quantity measured: ρ_d
Wavelength range: 0.38 to 0.7 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO
Additional references: 5, 10, 11
Comments: see section 2.2.1

B-13522

Platform: laboratory
Instrument: Beckman IR-3 spectrophotometer

Quantity measured: ρ_d
Wavelength range: 1.8 to 13 μ
Reflectance attachment: Hohlraum

Reflectance standard: Data are absolute
Comments: see section 2.2.6

B-19999, B-20000
B-20001, B-20002

Platform: laboratory
Instrument: Beckman DK-2 spectrophotometer

Quantity measured: ρ_d, τ_d
Wavelength range: 0.28 to 2.6 μ
Reflectance attachment: integrating sphere

Reflectance standard: MgO for ρ_d, but values of τ_d are absolute
Comments: For transmittance measurements, the sample was positioned at one of the entrance ports of the integrating sphere, and MgO was placed at both the sample and reference ports (cf. fig. 3). Thus, energy transmitted into a hemisphere was seen by the detector. (See section 2.2.2.)

820001-256 NYLON CLOTH USED FOR PERSONE! FARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. W:.1 SQ. YD., SHRUNK, MIL-C-7020 (ASG), TYPE I, UNDYED, 2 LAYERS. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CED CIA ECB ECCA

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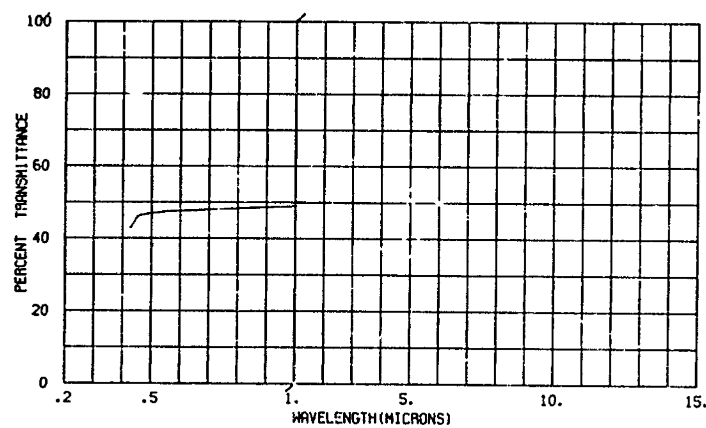

820001-257 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT.1 SQ. YD., SHRUNK, MIL-C-7020 (ASG), TYPE I, ORANGE (FED 1219?). SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED CIA ECB ECCA

PARAMETER INFORMATICN
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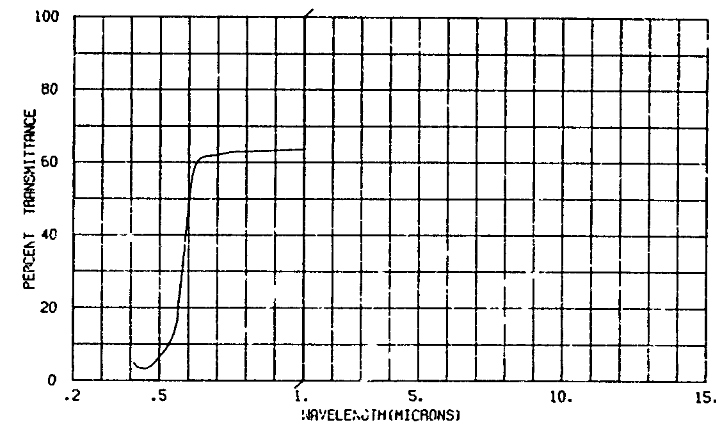

120001-258 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106); 1 LAYER. SAMPLE NO 1062.

SUBJECT CODES
AAKA ECBBI CDA CED CIA ECB ECCA

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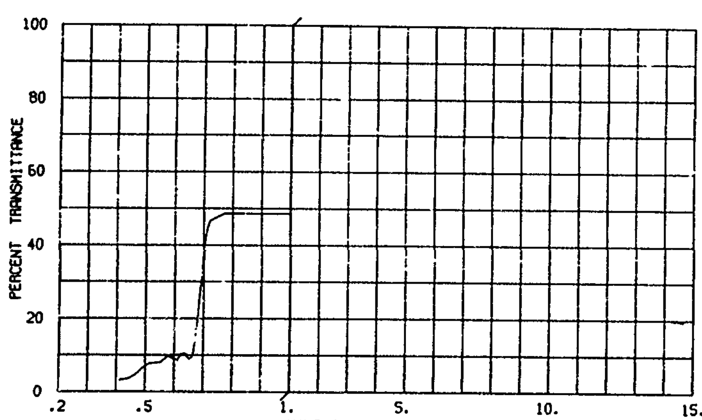

820001-259 NYLCN CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, SAND (A' 1005), 1 LAYER. SAMPLE NC. 1061.

SUBJECT CODES
AAKA ECBBF CDA CED CIA ECB ECCA

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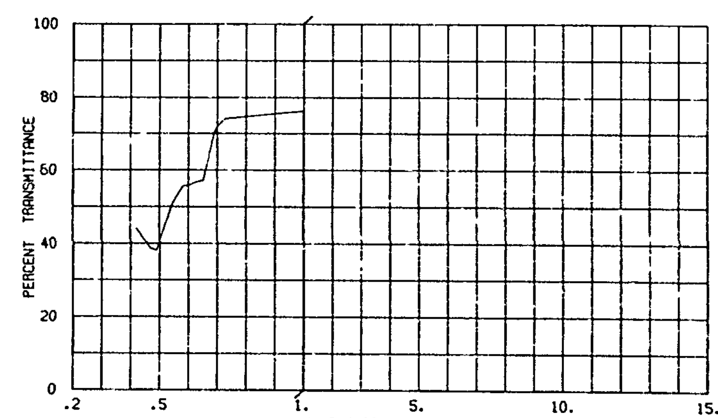

820001-260 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106), 1 LAYER. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED CIA ECB ECCA

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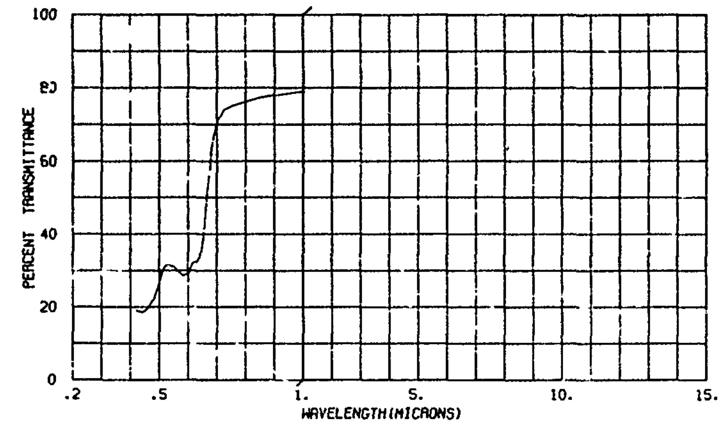

820001-261 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, UNDYED. 1 LAYER. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CED CIA ECB ECCA

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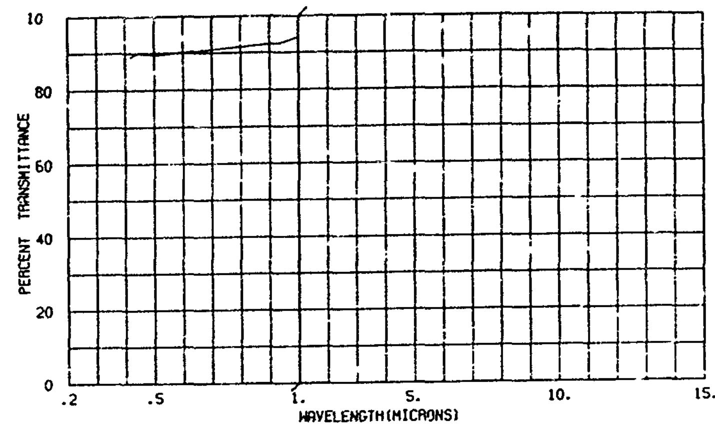

820001-262 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197), 1 LAYER. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBC CDA CEC CIA ECB ECCA

PARAMETER INFORMATION
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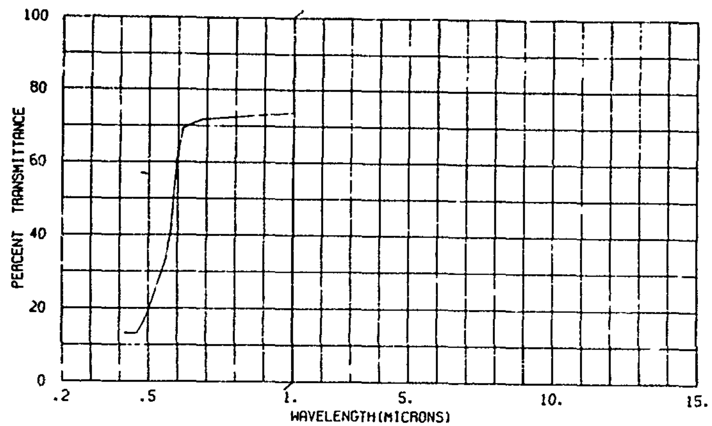

820001-263 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106), 1 LAYER. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CEC DIA ECCA ECCB

PARAMETER INFORMATION
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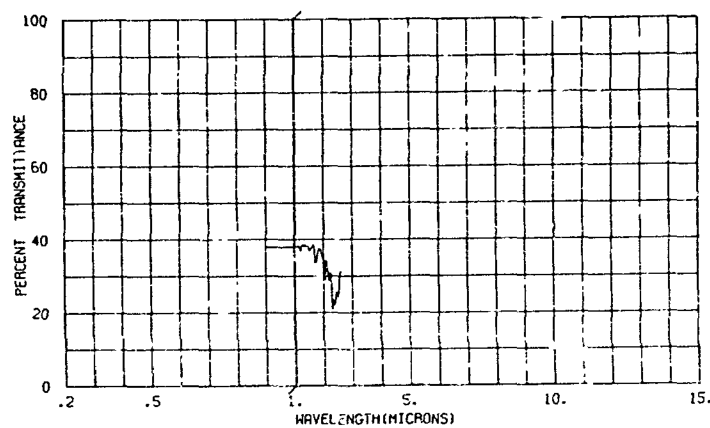

820001-264 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, SAND (AF 1005). 1 LAYER. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DIA ECCA ECCB

PARAMETER INFORMATION
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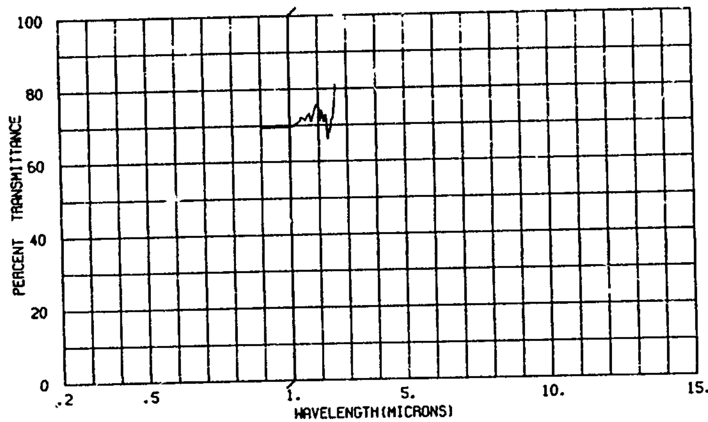

820001-265 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106) 1 LAYER. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DIA ECCA ECCB

PARAMETER INFORMATION
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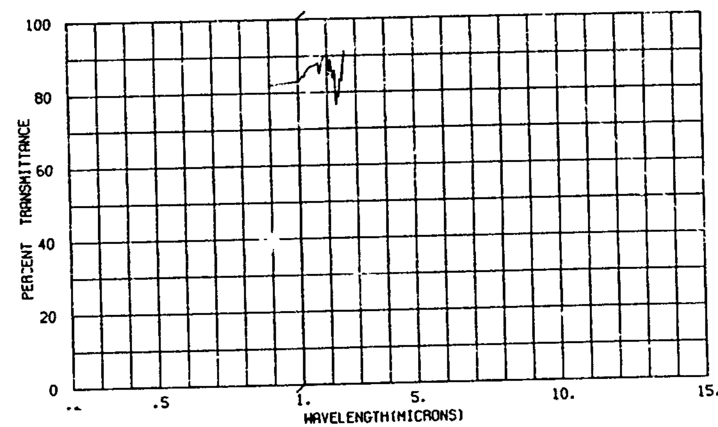

820001-266 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, UNDYED. 1 LAYER. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CLD DIA ECCA ECCB

PARAMETER INFORMATION
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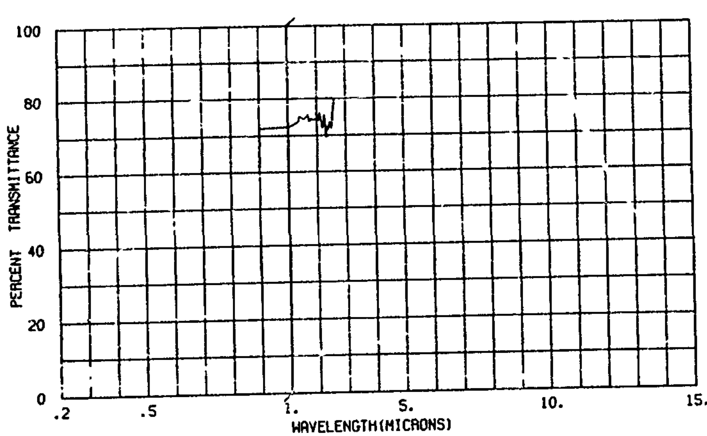

820001-267 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197). 1 LAYER. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DIA ECCA ECCB

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
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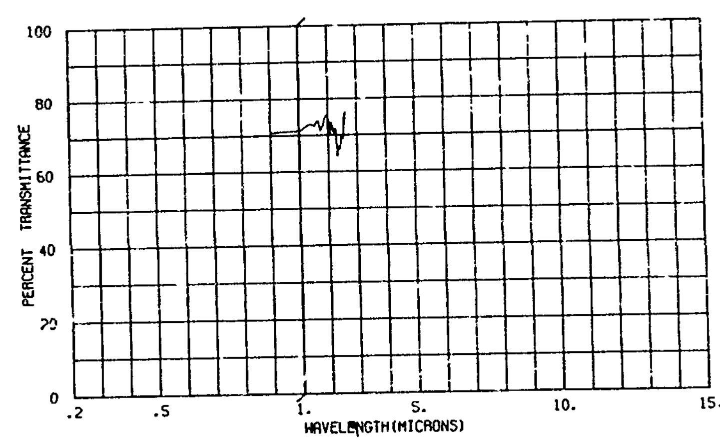

820001-268

NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106), 1 LAYER. WET. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECEBI CDA CED CFAA DFCE ECB ECCA

PARAMETER INFORMATION
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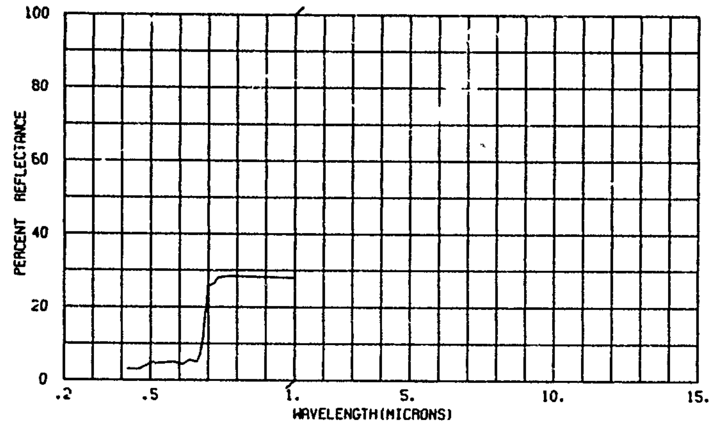

820001-269

NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, SAND (AF 1005), 1 LAYER. WET. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECEBF CDA CED CFAA DFCE ECB ECCA

PARAMETER INFORMATION
CATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
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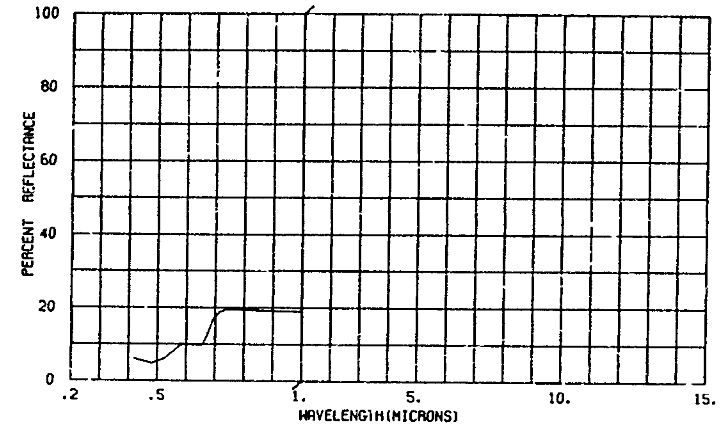
TEPP= DEW PT N AVE= C01



820001-270

NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106) 1LAYER. WET. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECEBI CDA CED CFAA DFCE ECB ECCA

PARAMETER INFORMATION
CATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= IN= C3.0 IAZ= CN= CAZ= IRR=
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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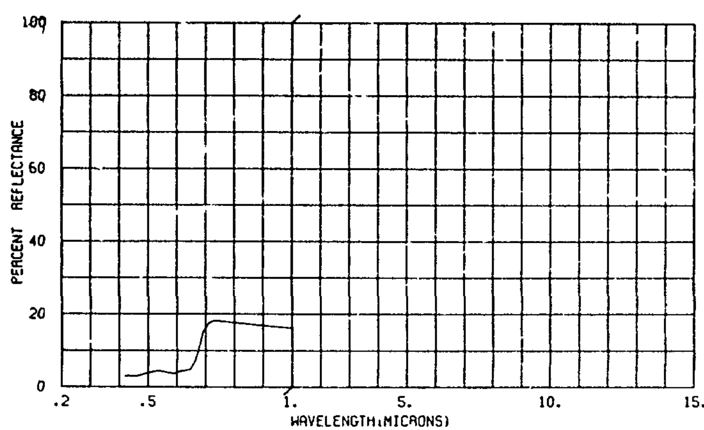

820001-271

NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASC) TYPE I, UNDYED. 1 LAYER. WET. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECEBJ CDA CED CFAA DFCE ECB ECCA

PARAMETER INFORMATION
CATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= IN= C3.0 IAZ= CN= CAZ= IRR=
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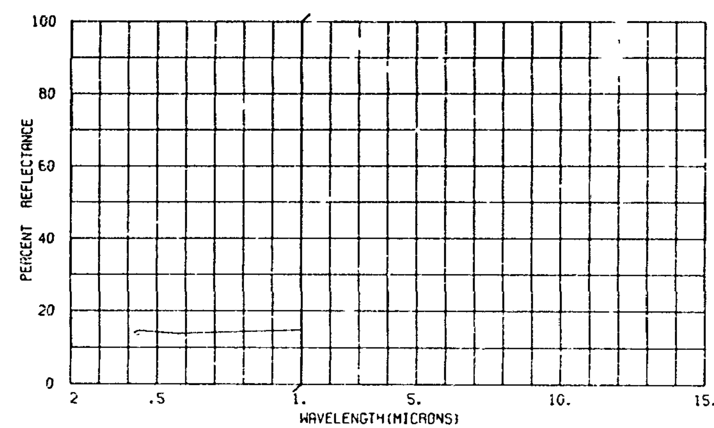

820001-272 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197). 1 LAYER. WET. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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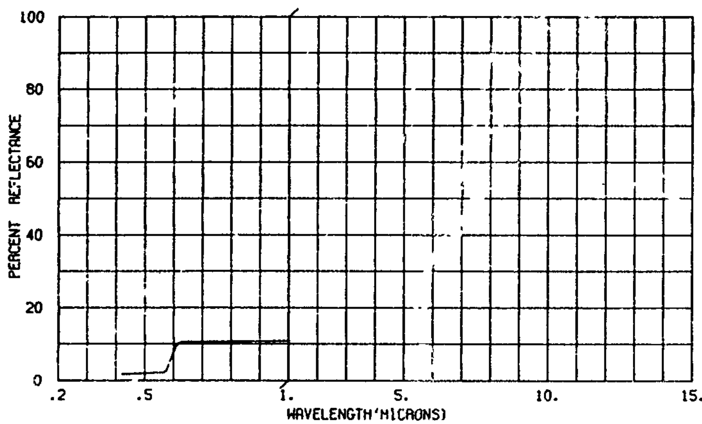

820001-273 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106), 1 LAYER. WET. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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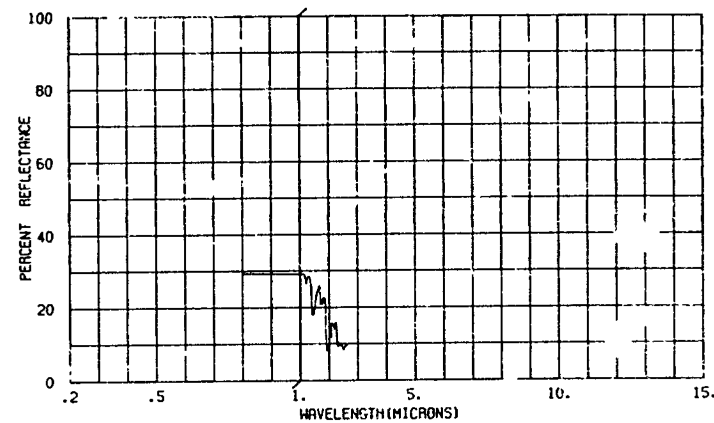

820001-274 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, SAND (AF 1085), 1 LAYER. WET. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
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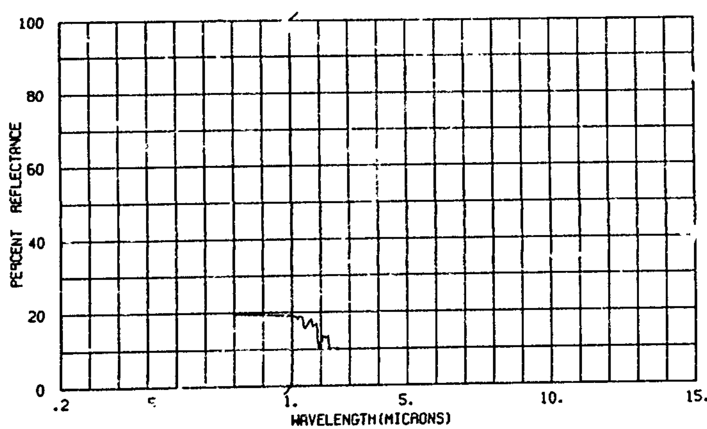

820001-275 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106) 1 LAYER. WET. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
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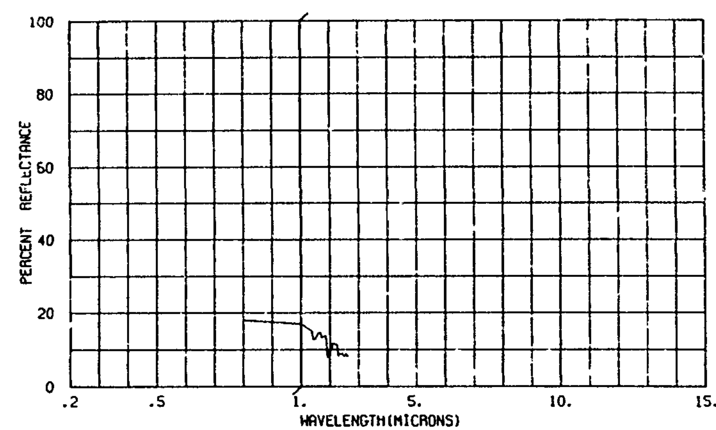

820001-276 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, UNDYED. 1 LAYER. WET. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CED DFAA DFCE ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
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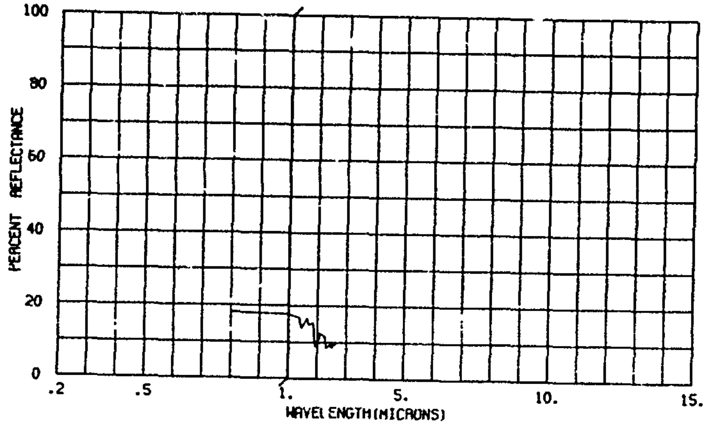
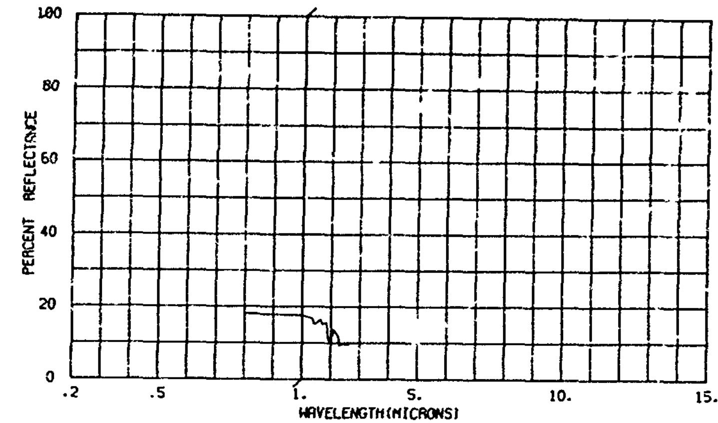


820001-277 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197). 1 LAYER. WET. SAMPLE NO. 1959.

SUBJECT CODES
AAKA ECBBC CDA CED DFAA DFCE ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-278 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106), 1 LAYER. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
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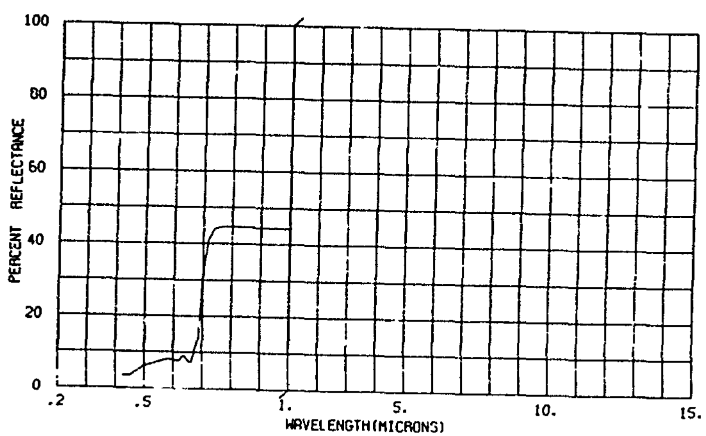

820001-279 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, SAND (AF 1005). 1 LAYER. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
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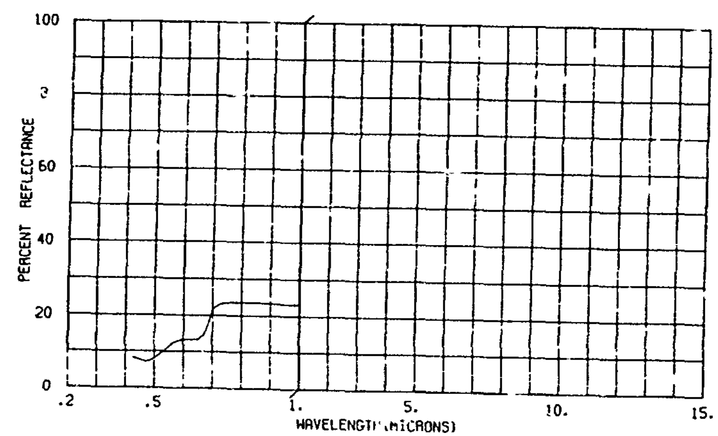

820001-280 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106) 1 LAYER. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
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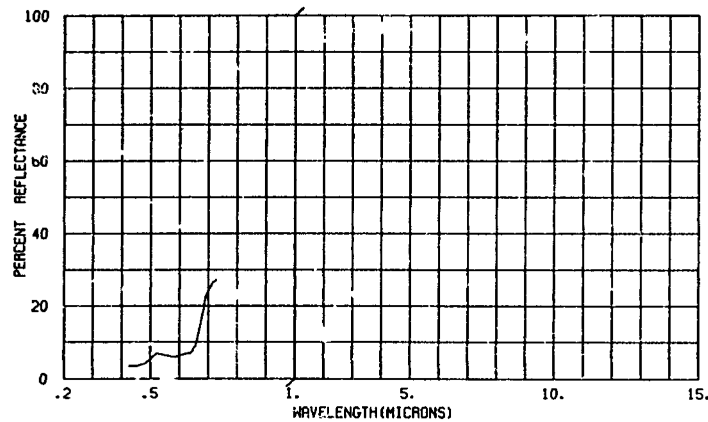

820001-281 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, UNDYED. 1 LAYER. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
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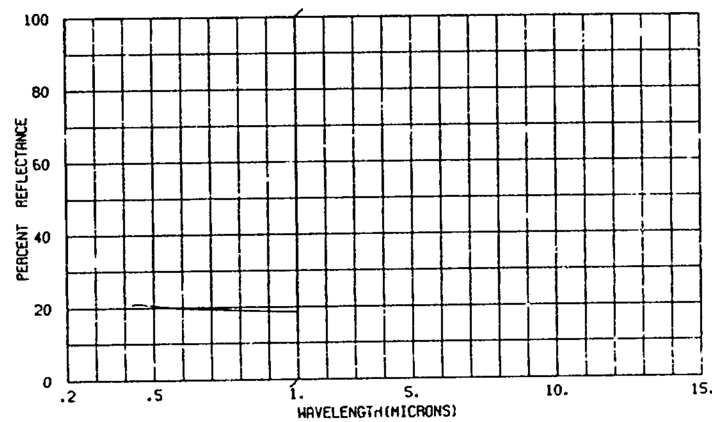

820001-282 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197), 1 LAYER. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
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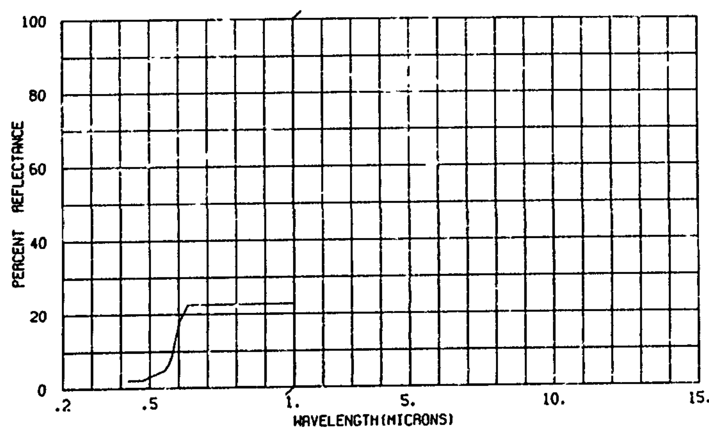

820001-283 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT. PER SQ. YD., UNSHRUNK, MIL-C-7350 (ASG), TYPE I, OLIVE GREEN (ARMY 106), 2 LAYERS. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR=
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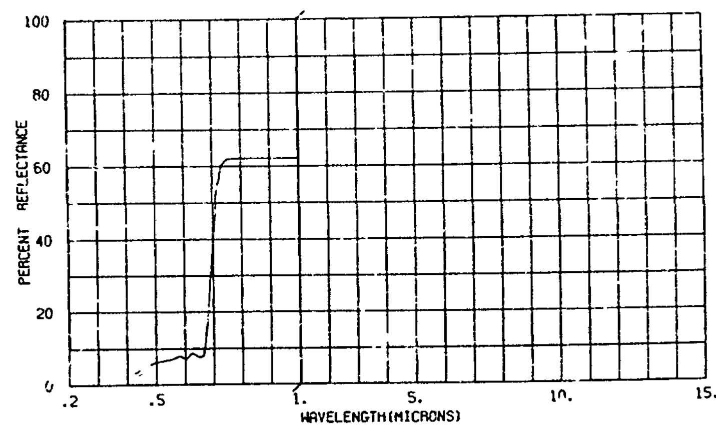

820001-284 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, SAND (AF 1005). 2 LAYERS. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION

CATE= 08 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
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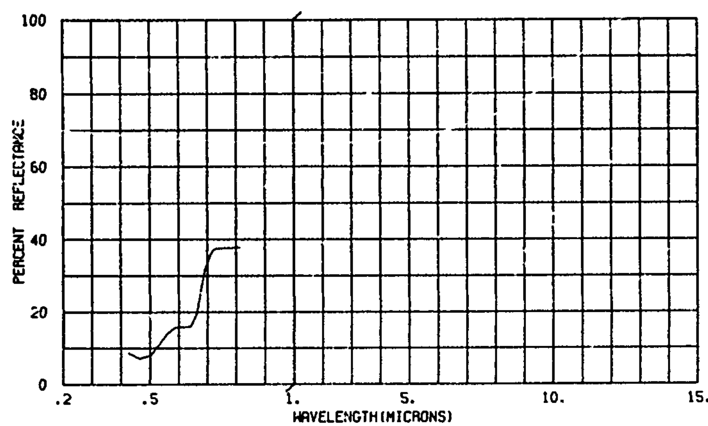

820001-285 NYLCN CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, OLIVE GREEN (ARMY 106) 2 LAYERS. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION

CATE= 08 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
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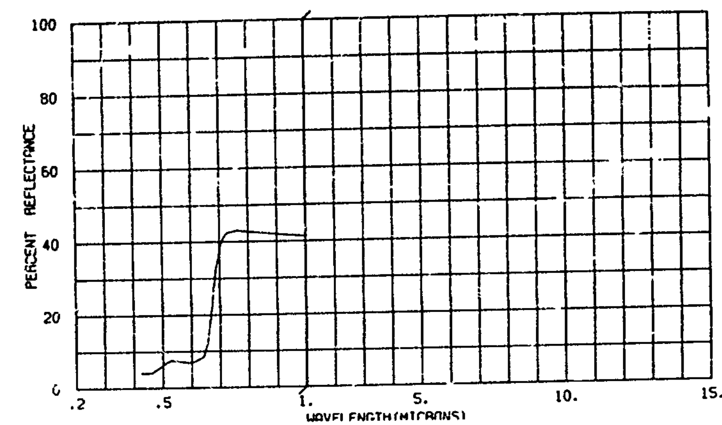

820001-286 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, 1.1 OZ. MAX. WT. 1 SQ. YD., SHRUNK, MIL-C-7020 (ASG) TYPE I, UNDYED. 2 LAYERS. SAMPLE NO. 1057.

SUBJECT CODES
AAKA ECBBJ CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION

CATE= 08 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
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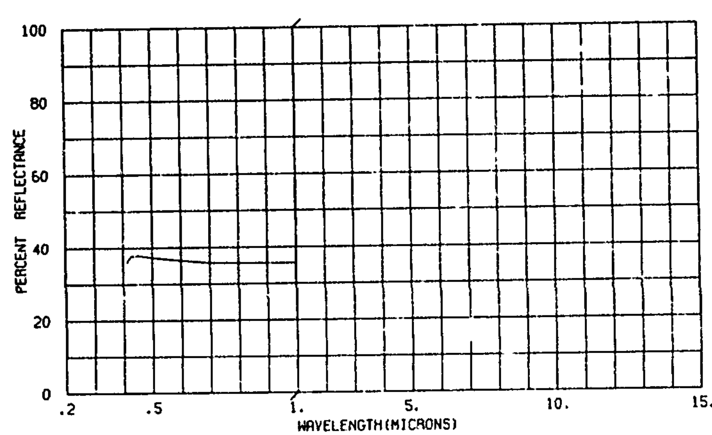

820001-287 NYLON CLOTH USED FOR PERSONEL PARACHUTES, PLAIN WEAVE RIB STOP PATTERN, ORANGE (FED 12197), 2 LAYERS. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE ECB ECCA

PARAMETER INFORMATION

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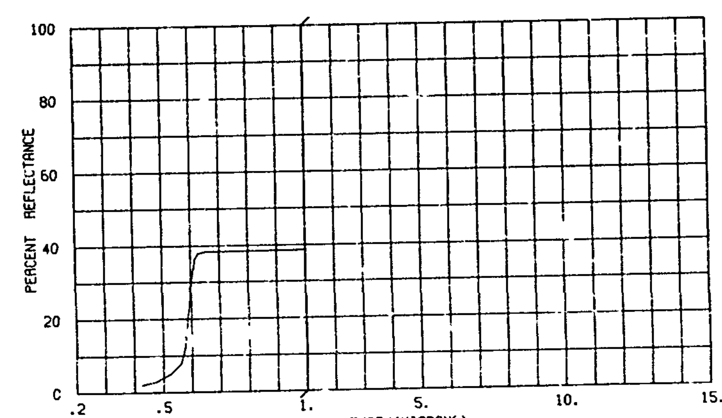

820001-288 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT/SQ. YD., UNSHRUNK, MIL-C-7350(ASG), TYPE I, OLIVE GREEN (ARMY 106), 4 LAYERS OF MATERIAL. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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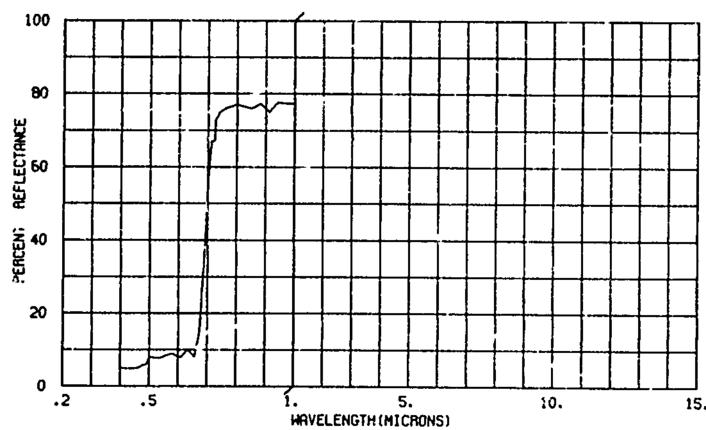
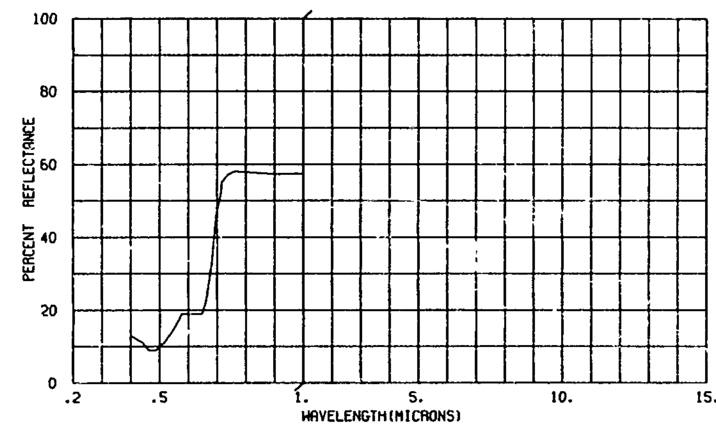


820001-289 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), SAND (AF 1005), 4 LAYERS THICK. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-290 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATT OLIVE GREEN (ARMY 106), 4 LAYERS THICK. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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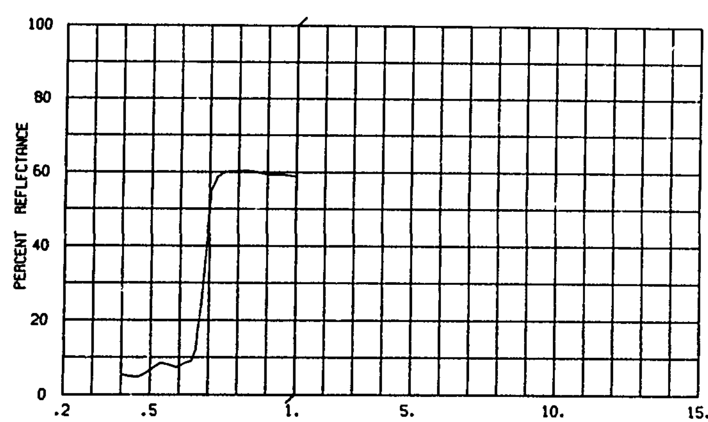

820001-291 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), TYPE I, UNDYED, 4 LAYERS THICK. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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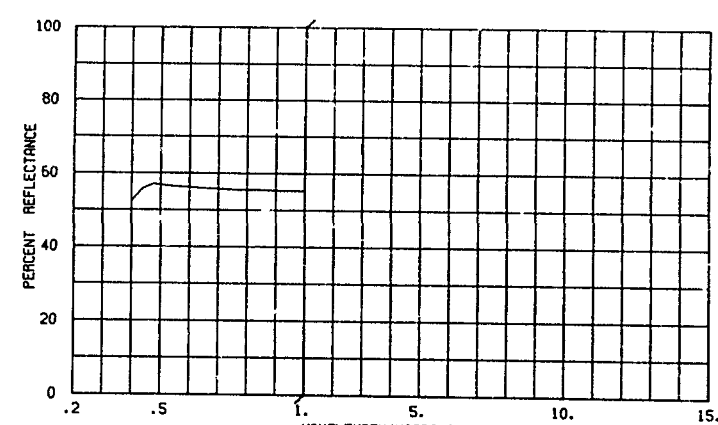

820001-292 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), 4 LAYERS THICK. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
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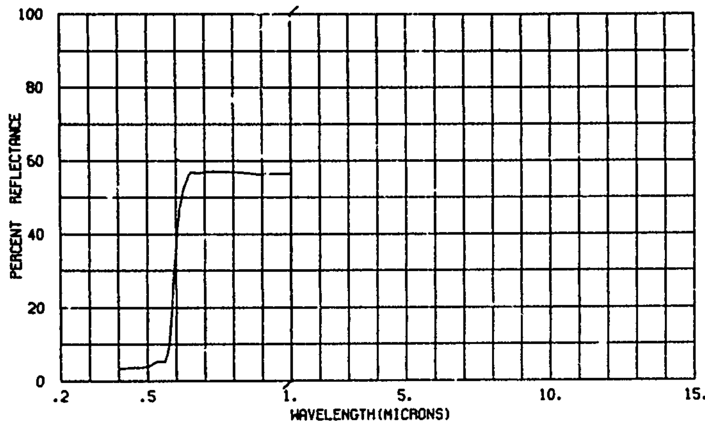
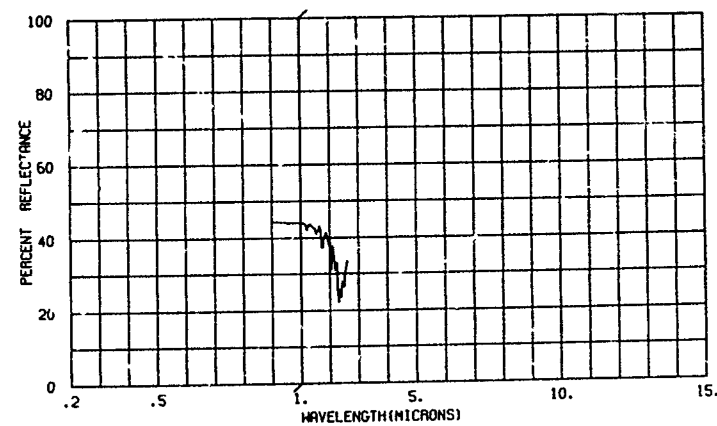


820001-293 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT/SQ. YD., UNSHRUNK, MIL-C-7750(ASG), TYPE I, OLIVE GREEN (ARMY 106), 1 LAYER THICK. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED CFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0C00 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-294 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), SAND (AF 1005), 1 LAYER THICK. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
CATE= C8 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0C00 IN= 03.0 IAZ= CN= CAZ= IRR= E
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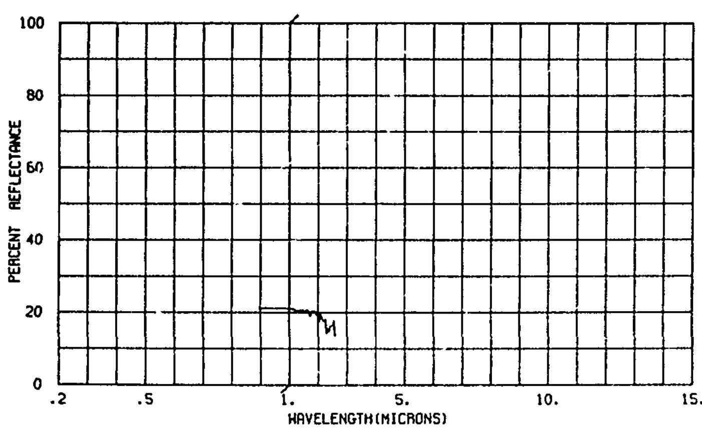

820001-295 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, OLIVE GREEN (ARMY 106), 1 LAYER THICK. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0C00 IN= 03.0 IAZ= CN= CAZ= IRR= E
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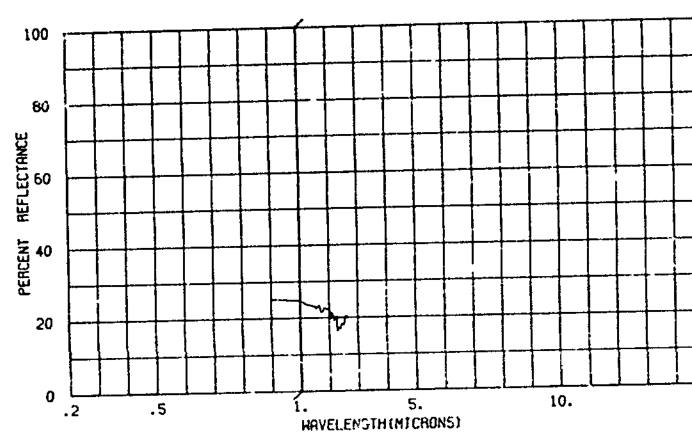

820001-296 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), TYPE I, UNDYED, 1 LAYER THICK. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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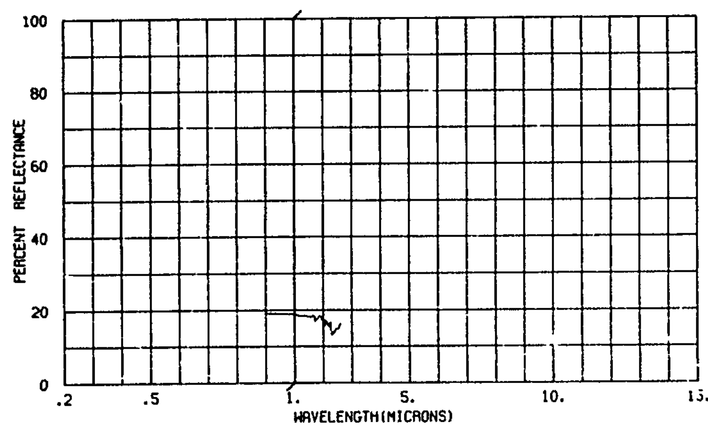
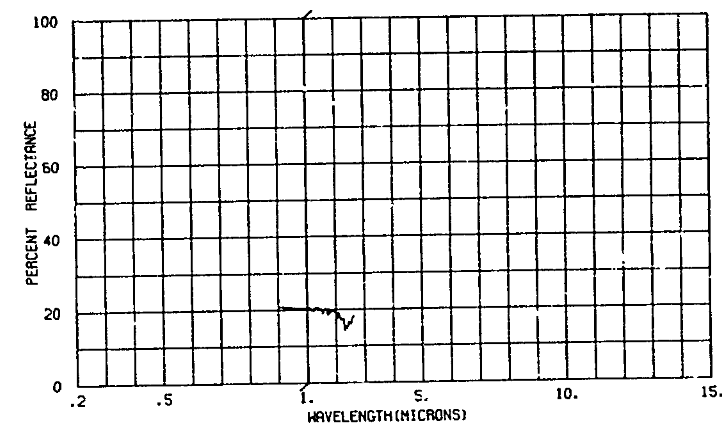


820001-297 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), 1 LAYER THICK. SAMPLE NO. 1054.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECCA ECCB

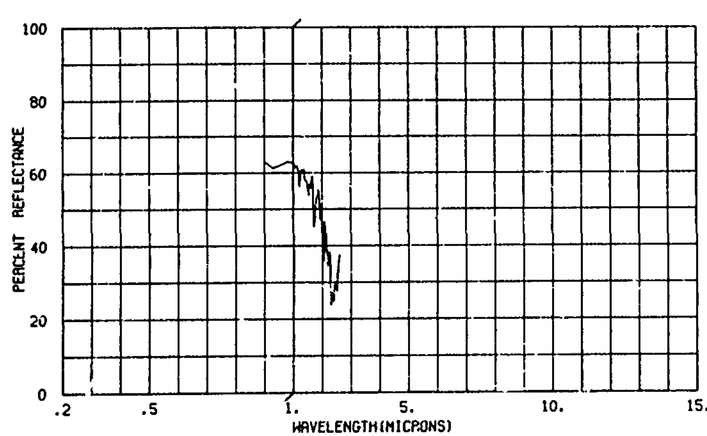
PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
DBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= C01



820001-298 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT-SQ. YD., UNSHRUNK, MIL-C-7350(ASG), TYPE I, OLIVE GREEN (ARMY 106), 2 LAYERS THICK. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
DBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= C01



820001-299 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), SAND (AF 1005), 2 LAYERS THICK. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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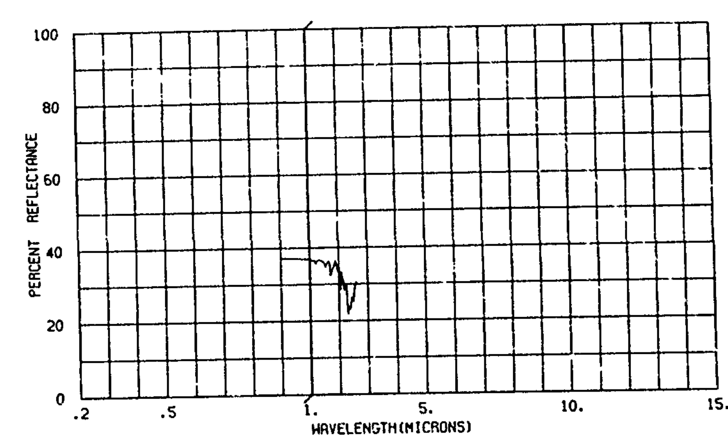
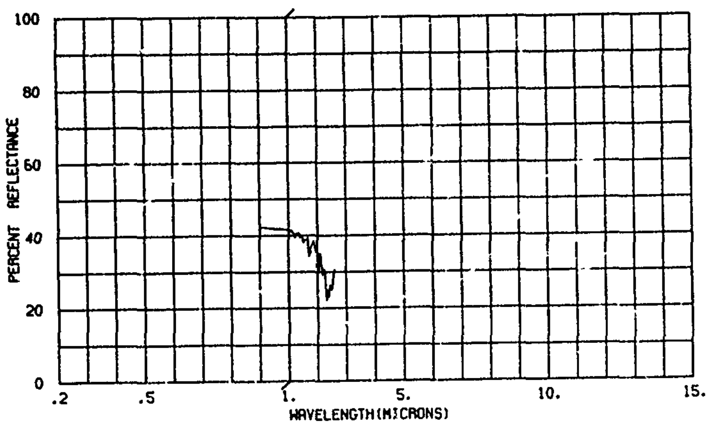


820001-300 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, OLIVE GREEN (ARMY 106), 2 LAYERS THICK. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

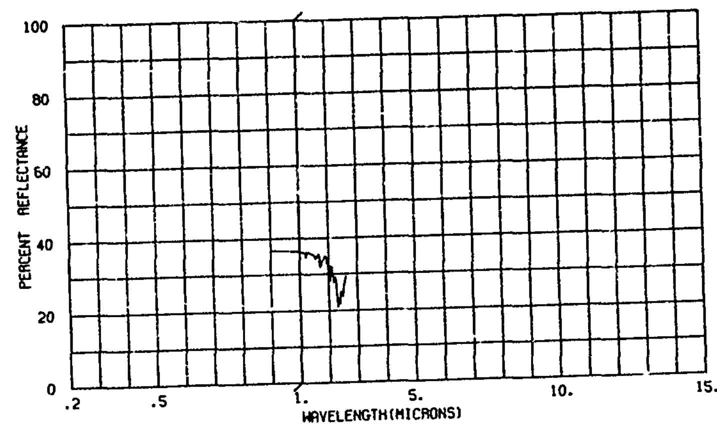
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-301 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), TYPE I, UNDYED, 2 LAYERS THICK. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECCA ECCB

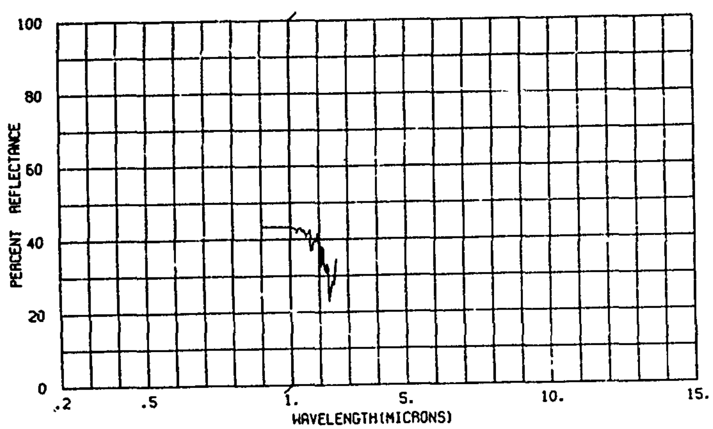
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-302 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), 2 LAYERS THICK. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECCA ECCB

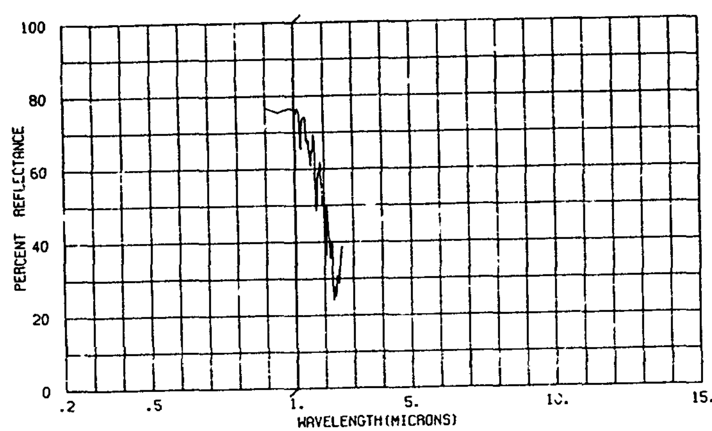
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-303 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, 2.25 OZ. MAX. WT/SQ. YD., UNSHRUNK, MIL-C-7350(ASG), TYPE I, OLIVE GREEN (ARMY 106), 4 LAYERS OF MATERIAL. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DF ECCA ECCB

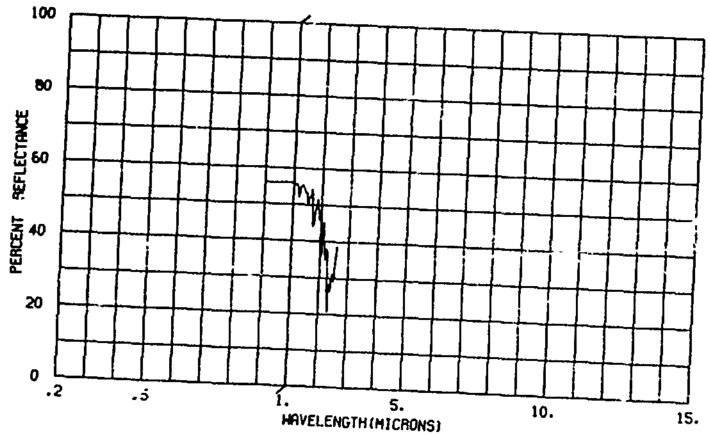
PARAMETER INFORMATION
.ATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-304 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), SAND (AF 1005), 4 LAYERS THICK. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

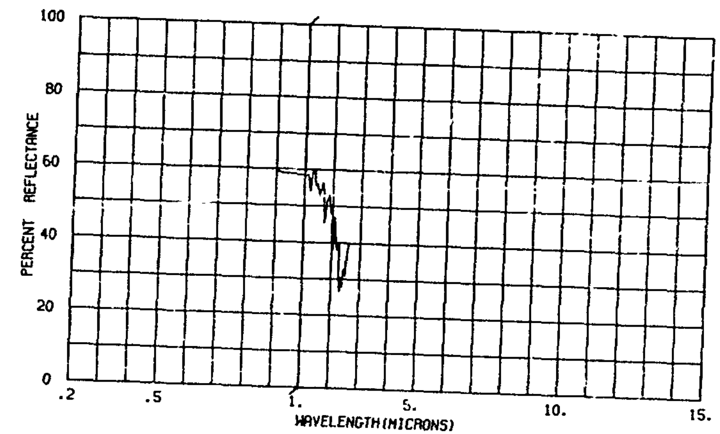
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-305 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, OLIVE GREEN (ARMY 106), 4 LAYERS THICK. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

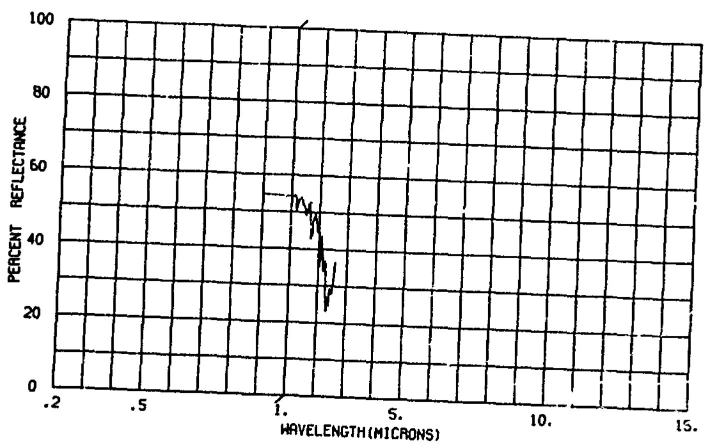
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-306 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, 1.1 OZ. MAX. WT/SQ. YD., SHRUNK, MIL-C-7020(ASG), TYPE I, UNDYED, 4 LAYERS THICK. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED CFAA DFCE DK ECCA ECCB

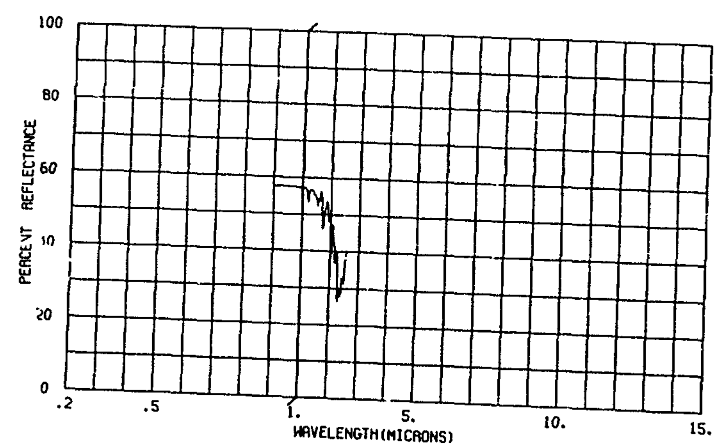
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-307 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), 4 LAYERS THICK. SAMPLE NO. 1059.

SUBJECT CODES
AAKA FCBBC CDA CED DFAA DFCE DK ECCA ECCB

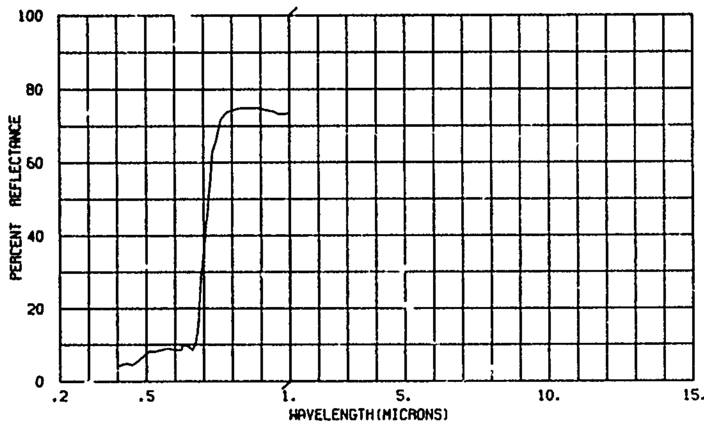
PARAMETER INFORMATION
CATE= 08 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= C3.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-308 NYLON CLOTH USED FOR CARGO PARACHUTES, OLIVE GREEN (ARMY 106), 1 LAYER THICK. SAMPLE NO. 1060.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFLE DK ECB ECCA

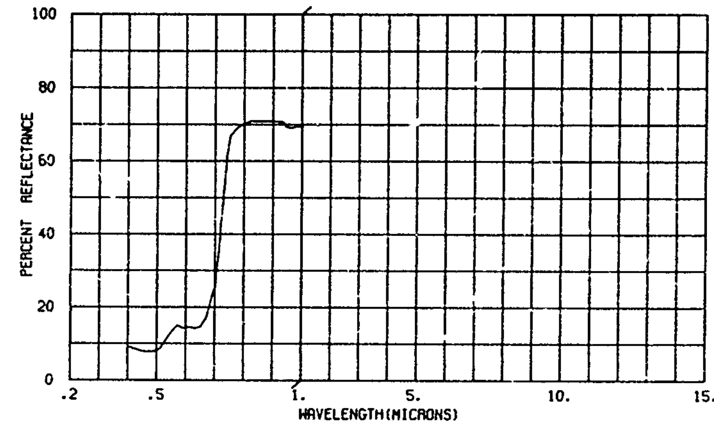
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WINC SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= C01



820001-309 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, SAND (AF 1005), 1 LAYER THICK. SAMPLE NO. 1060
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECB ECCA

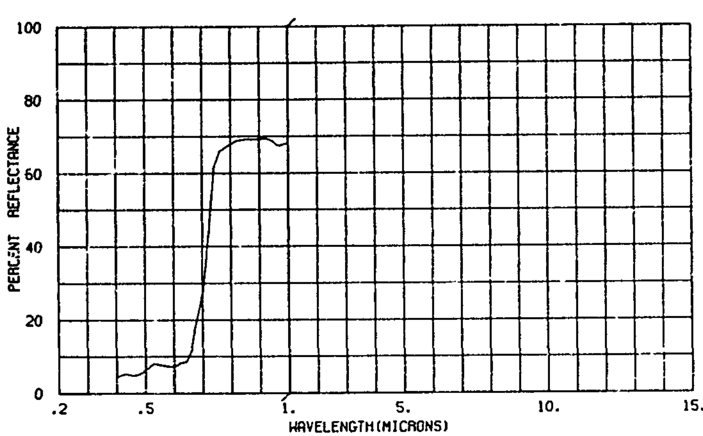
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0C00 IN= C3.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-310 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, OLIVE GREEN (ARMY 106), 1 LAYER THICK. SAMPLE NO. 1058.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBB, CDA CED DFAA DFCE DK ECB ECCA

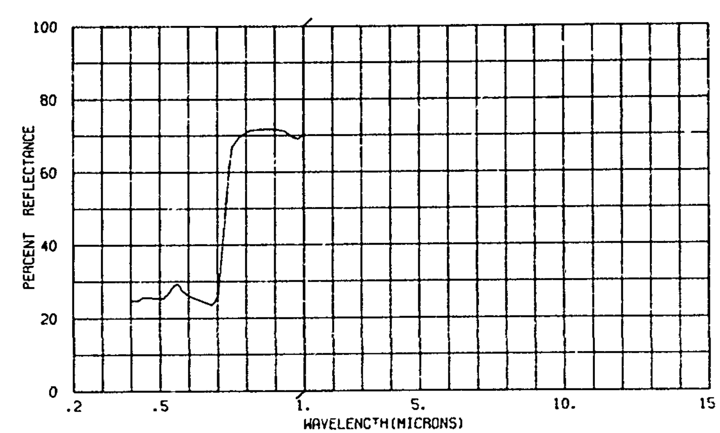
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0C00 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-311 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, UNDYED, 1 LYER THICK. SAMPLE NO. 1057
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATICN
CATE= 09 C8 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0C00 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WINC SP= WIND DI= CLD= VIS=
TEPP= DEW PT N AVE= 001



820001-312 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, ORANGE (FED 12197), 1 LAYER THICK. SAMPLE NO. 1059. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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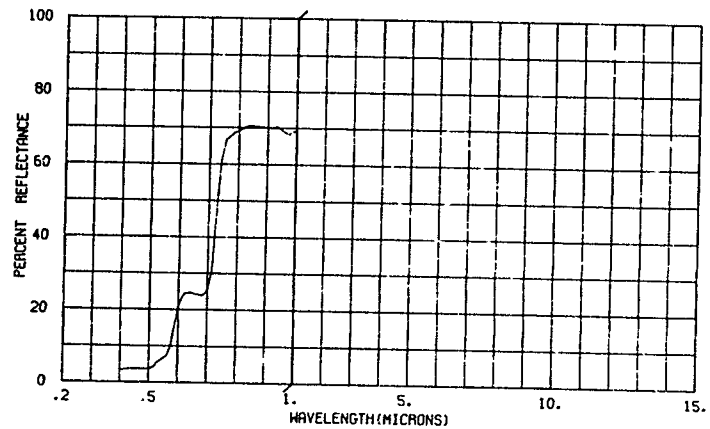

820001-314 NYLON CLOTH USED FOR CARGO PARACHUTES, OLIVE GREEN (ARMY 136), 2 LAYERS THICK. SAMPLE NO. 1061. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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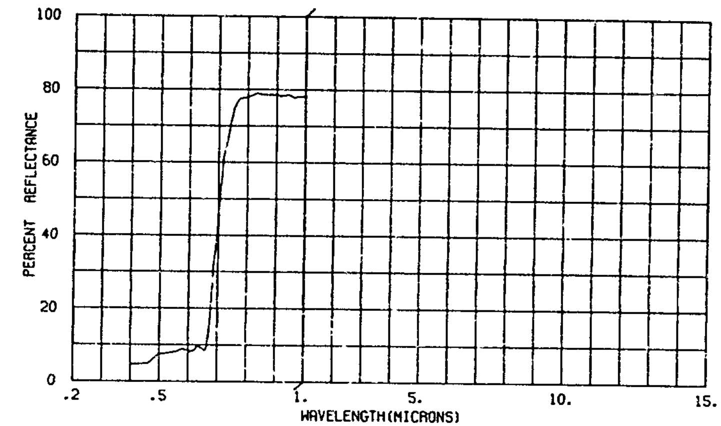

820001-315 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, SAND (AF 1005), 2 LAYERS THICK. SAMPLE NO. 1060. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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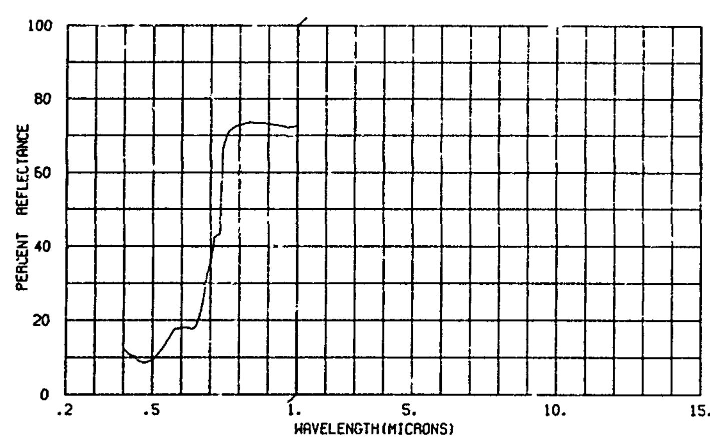

820001-316 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, OLIVE GREEN (ARMY 106), 2 LAYERS THICK. SAMPLE NO. 1058. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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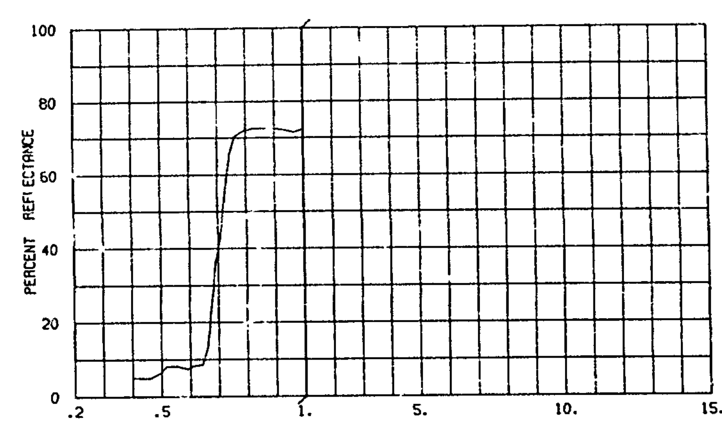
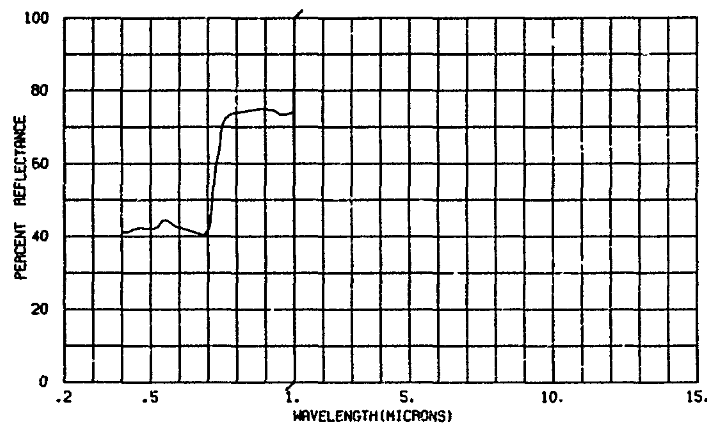


820001-317 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, UNDYED,
2 LAYERS THICK. SAMPLE NO. 1057.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECB ECCA

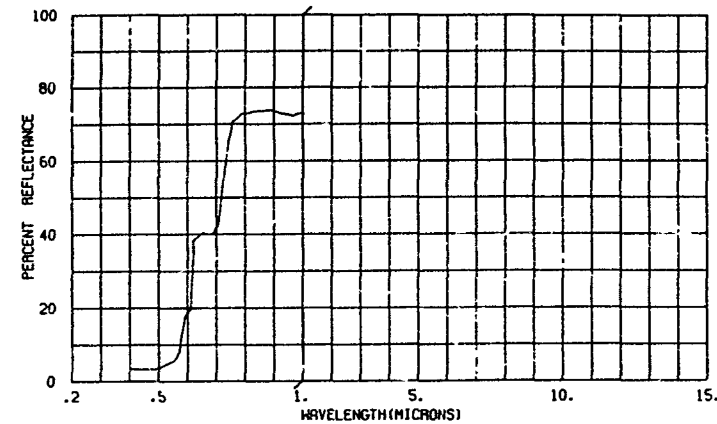
PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-318 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, ORANGE
(FED 12197), 2 LAYERS THICK. SAMPLE NO. 1059.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECB ECCA

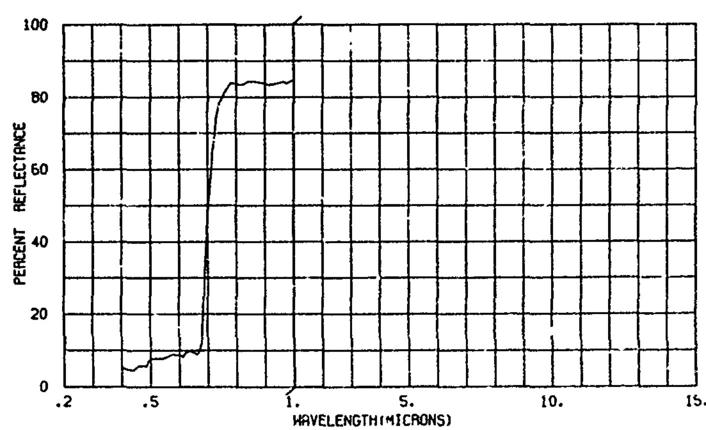
PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-329 NYLON CLOTH USED FOR CARGO PARACHUTES, OLIVE GREEN
(ARMY 106), 4 LAYERS THICK. SAMPLE NO 1061.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-321 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, SAND (AF 1005),
4 LAYERS THICK. SAMPLE NO. 1060.
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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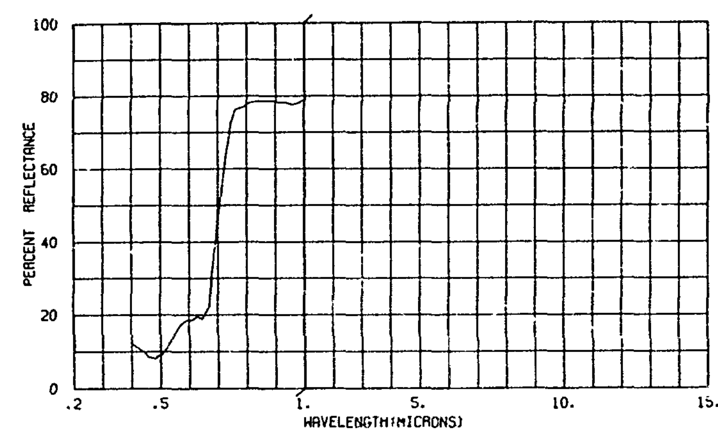
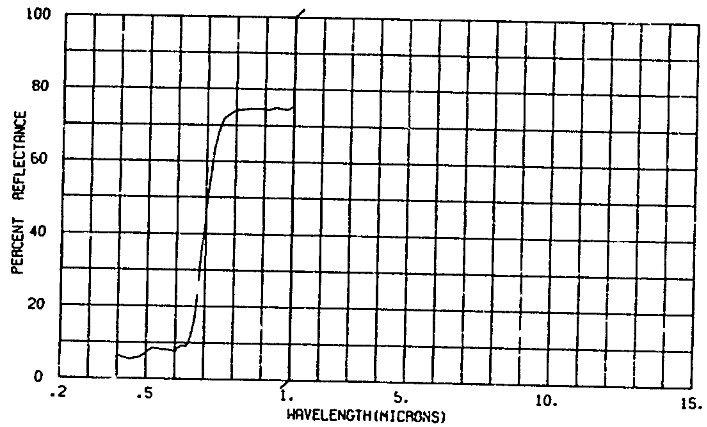


820001-322 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, OLIVE GREEN (ARMY 106), 4 LAYERS THICK. SAMPLE NO. 1058. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION

DATE= 09 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
CBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

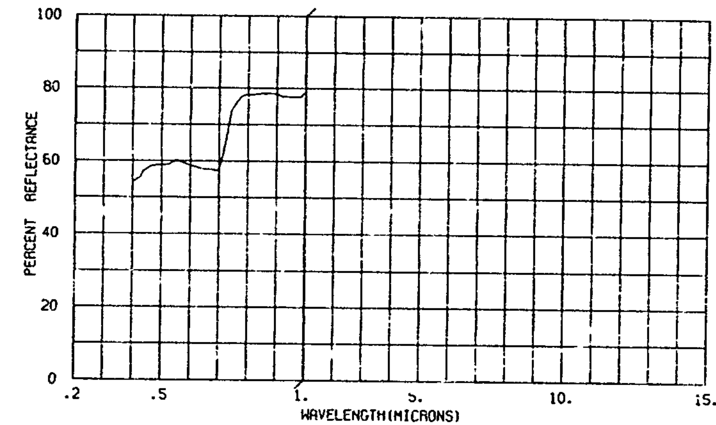


820301-323 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, UNDYED, 4 LAYERS THICK. SAMPLE NO. 1057. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION

DATE= 09 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
CBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



820001-324 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, ORANGE (FED 12197), 4 LAYERS THICK. SAMPLE NO 1059. FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBC CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION

DATE= 09 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= L
CBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
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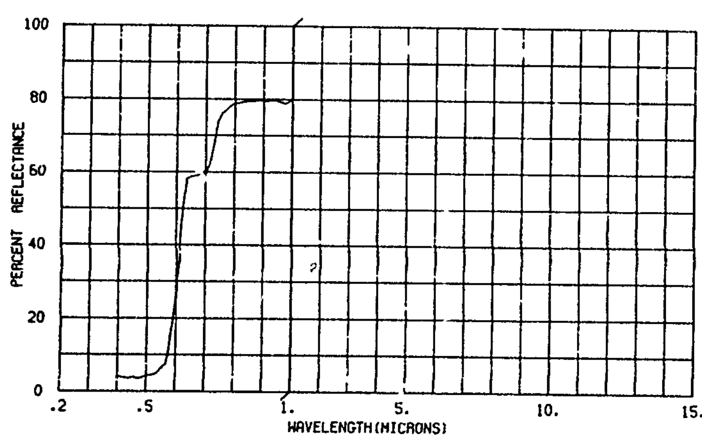
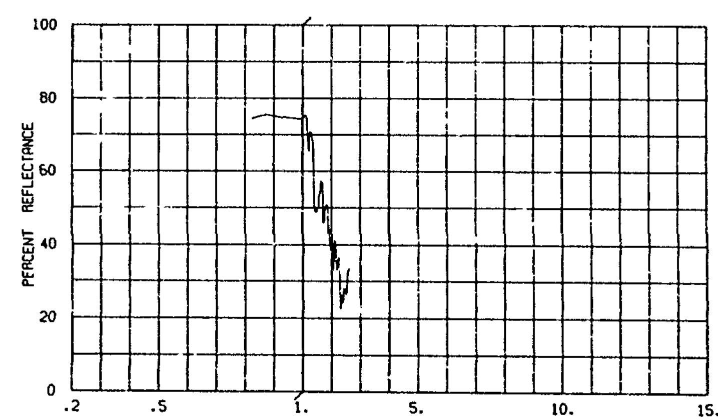


820001-326 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, OLIVE GREEN (ARMY 106), 4 FRESH SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION

DATE= 09 08 67	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
CBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



820001-327 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN,SAND (AF 1005), 4 SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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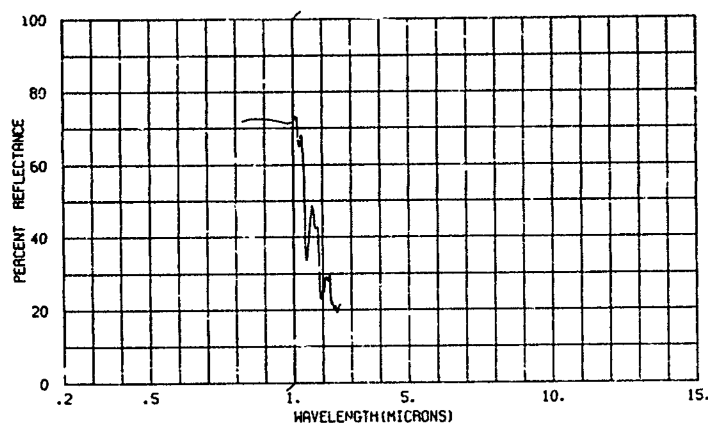
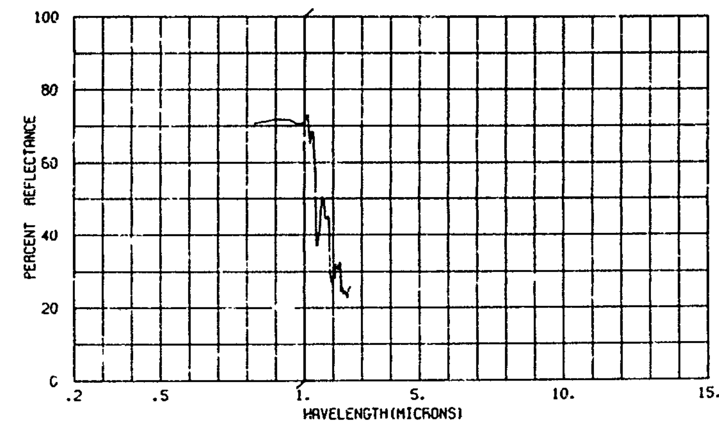


820001-328 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PA.TERN, OLIVE GREEN (ARMY 106), BACKGROUND 4 LEAF. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED CFAA DFCE DK ECCA ECCB

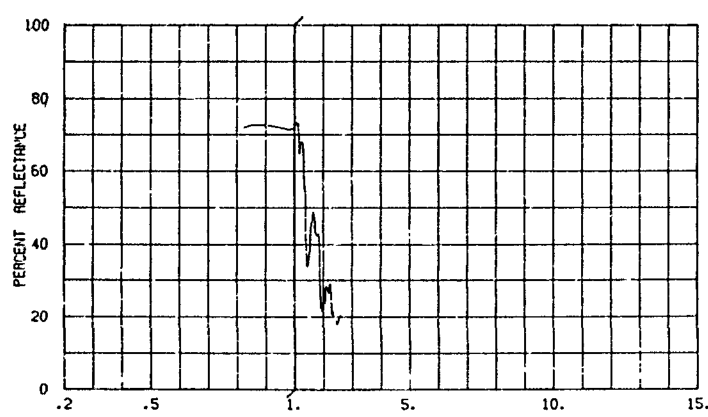
PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-329 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, UNDYED, 4 SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECCA ECCB

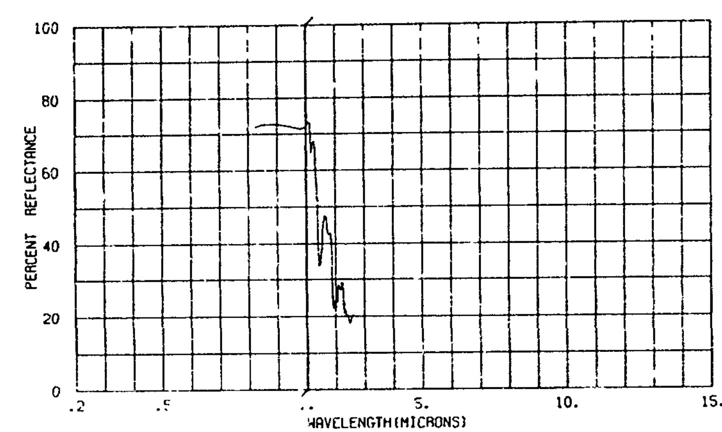
PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-330 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), BACKGROUND 4 LEAF. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBC CDA CED CFAA DFCE DK ECCA ECCB

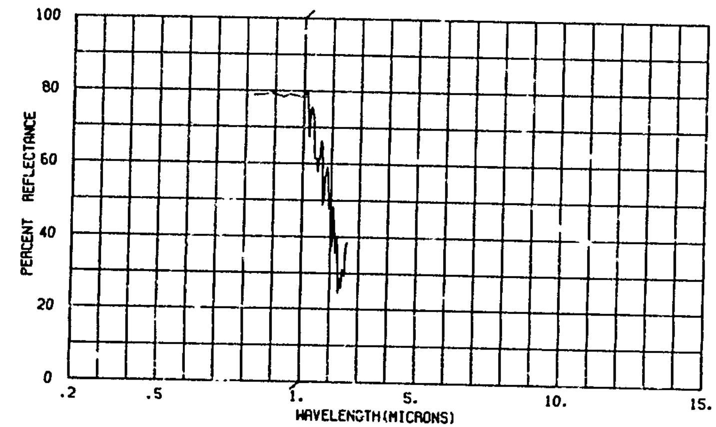
PARAMETER INFORMATION
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820G01-332 NYLON CLOTH USED FOR CARGO PARACHUTES, DOBBY WEAVE, OLIVE GREEN (ARMY 106), 4 FRESH SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1061.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

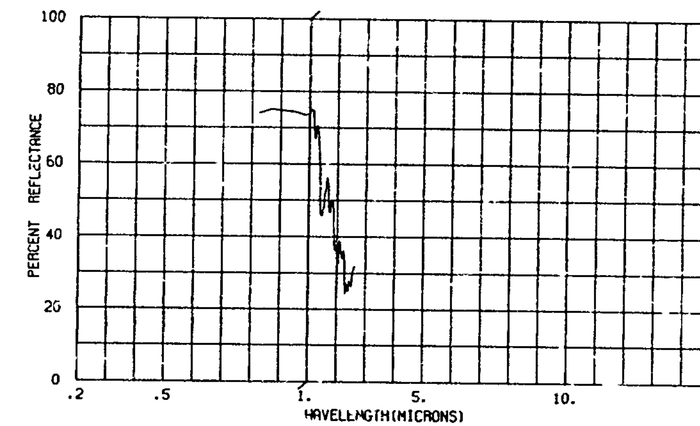
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-333 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, SAND (AF 1005), 4 SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

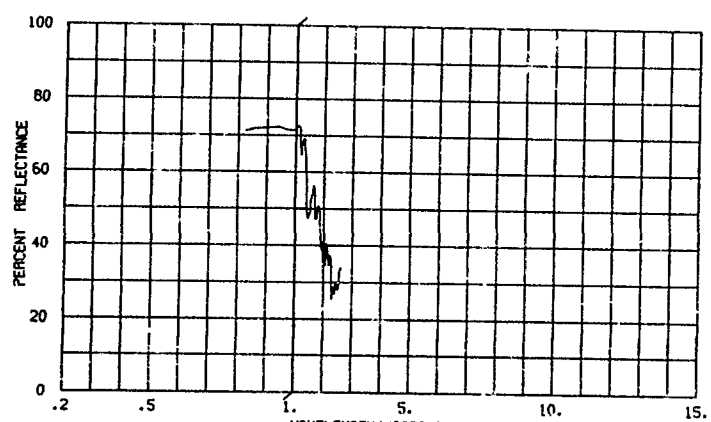
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-334 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, OLIVE GREEN (ARMY 106), BACKGROUND 4 LEAF. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

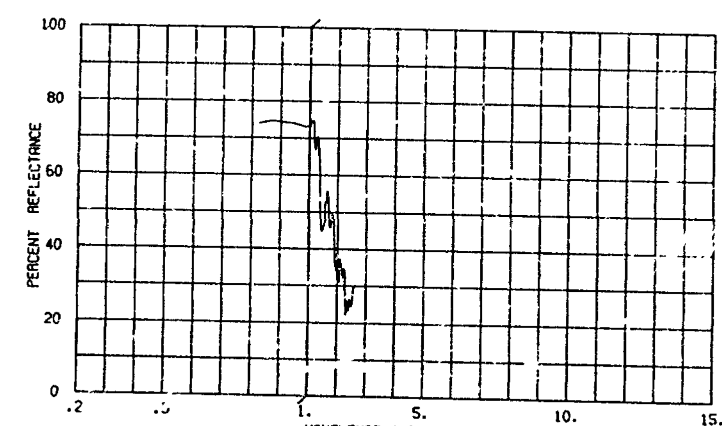
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-335 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, UNDYED, 4 SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB ECBBJ CDA CED DFAA DFCE DK ECCA ECCB

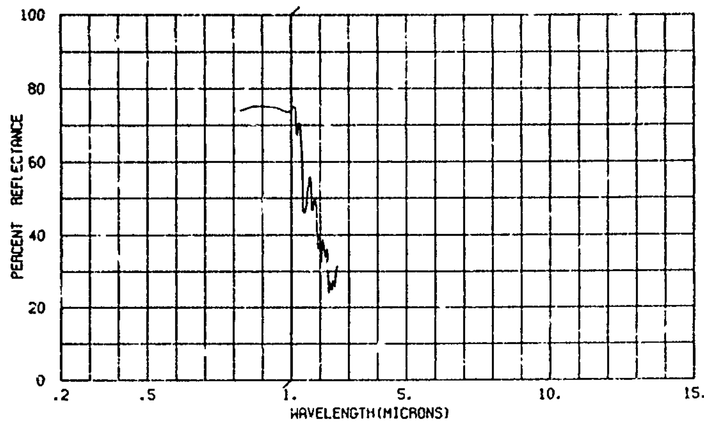
PARAMETER INFORMATICN
CATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
CAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-336 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, ORANGE (FED 12197), BACKGROUND 4 LEAVES. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECCA ECCB

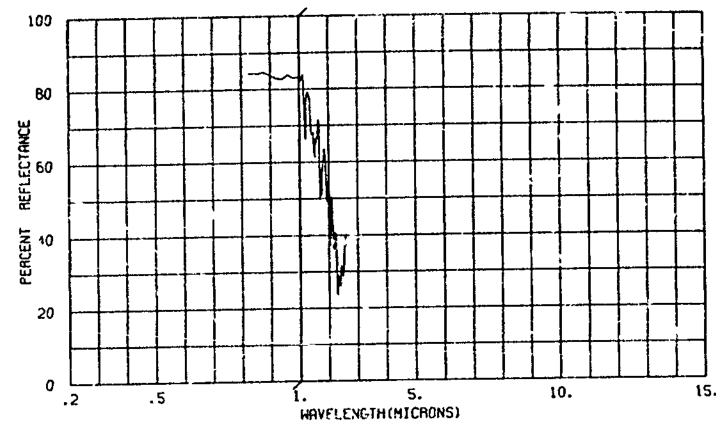
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-338 NYLON CLOTH USED FOR CARGO PARACHUTES, OLIVE GREEN (ARMY 106), SAMPLE NO. 1061
FOUR FRESH SYCAMORE LEAVES USED FOR BACKGROUND

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

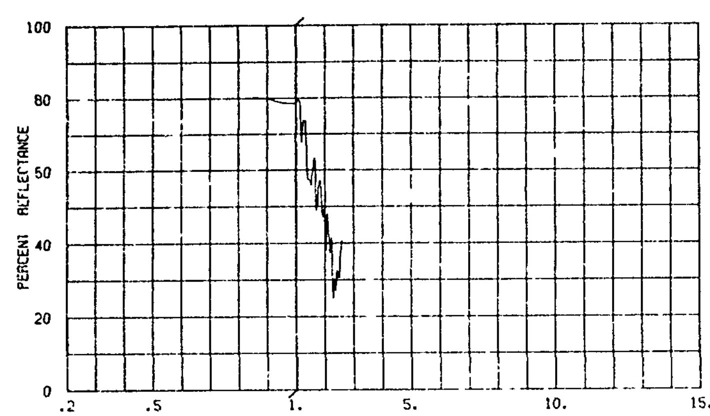
PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-339 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, SAND (AP 1005), 4 SYCAMORE LEAVES AS BACKGROUND. SAMPLE NO. 1060.

SUBJECT CODES
AAKA ECBBF CDA CED DFAA DFCE DK ECCA ECCB

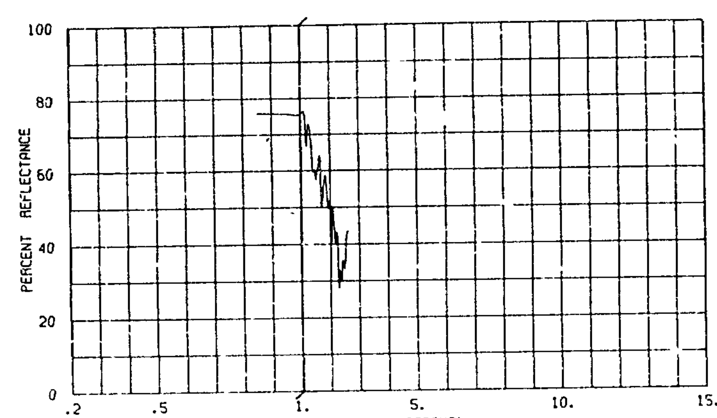
PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-340 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, OLIVE GREEN (ARMY 106), BACKGROUND 4 LEAF. SAMPLE NO. 1058.

SUBJECT CODES
AAKA ECBBI CDA CED DFAA DFCE DK ECCA ECCB

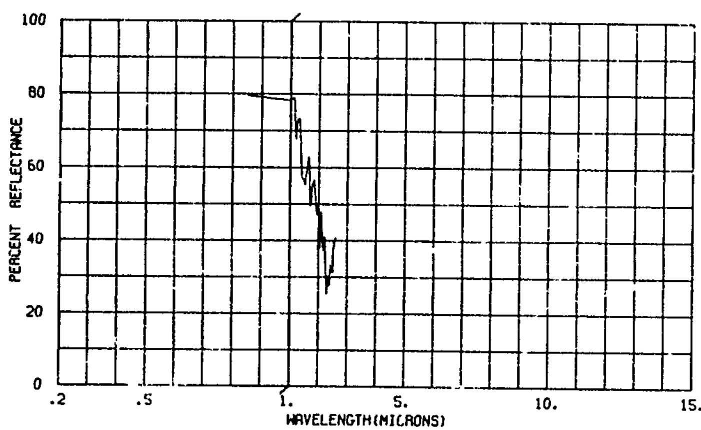
PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-341 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, UNDYED, 4 LEAF BACKGROUND. SAMPLE NO. 1057.

SUBJECT CODES
AAKAB CCBBJ CDA CED DFAA DFCE DK ECCA ECCB

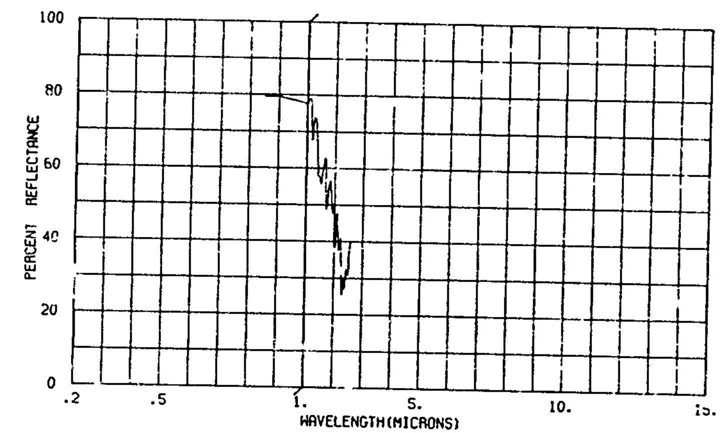
PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-342 NYLON CLOTH USED FOR PERSONNEL PARACHUTES, PLAIN WEAVE WITH RIB STOP PATTERN, /RANGE (FED 12197), BACKGROUND 4 LEAVES. SAMPLE NO. 1059.

SUBJECT CODES
AAKA ECBBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 10 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-001 ALUMINUM ALLOY 24-ST (ALCLAD)--CLEANED WITH LIQUID DETERGENT

SUBJECT CODES
AEA CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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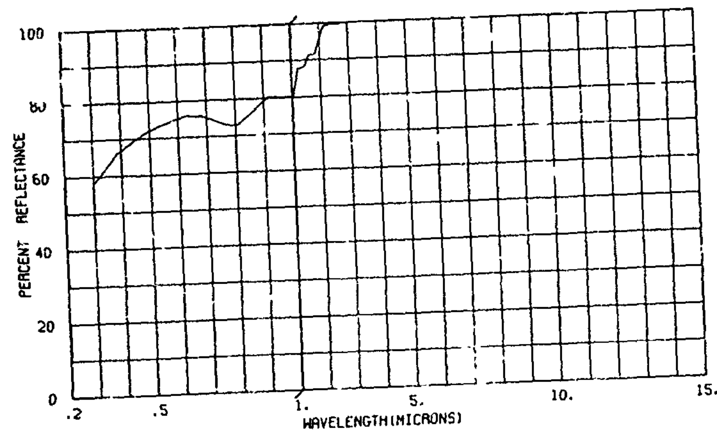
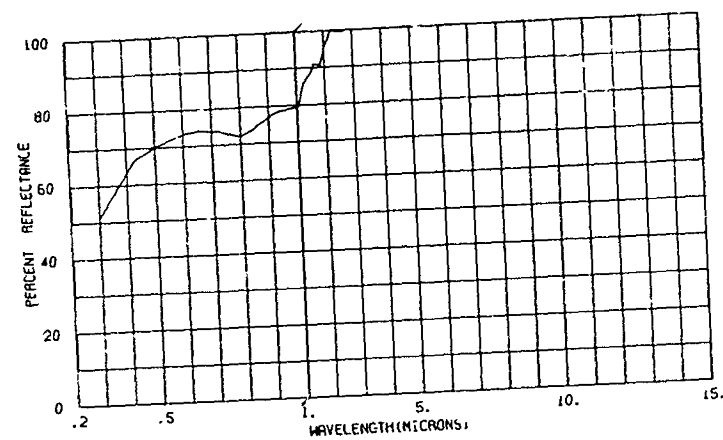


B03856-002 ALUMINUM ALLOY 24-ST (ALCLAD)--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEA CD CED DFA DFF DK ECAD ECB ECCA ECCB

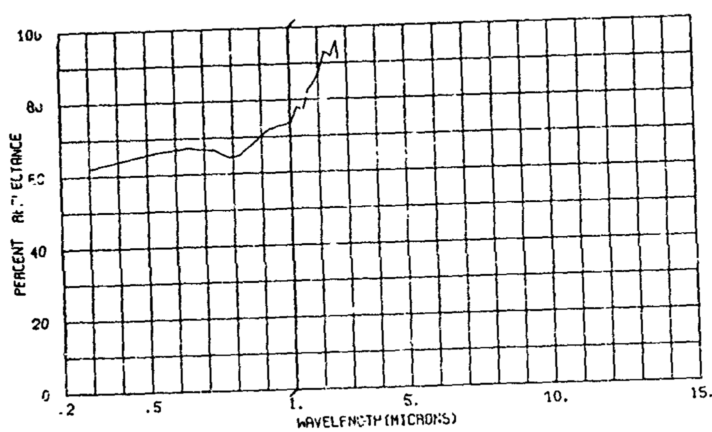
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-003 ALUMINUM ALLOY 24-ST (ALCLAD)--POLISHED.

SUBJECT CODES
AEA CD CED DFA DFF DK ECAD ECB ECCA ECCB

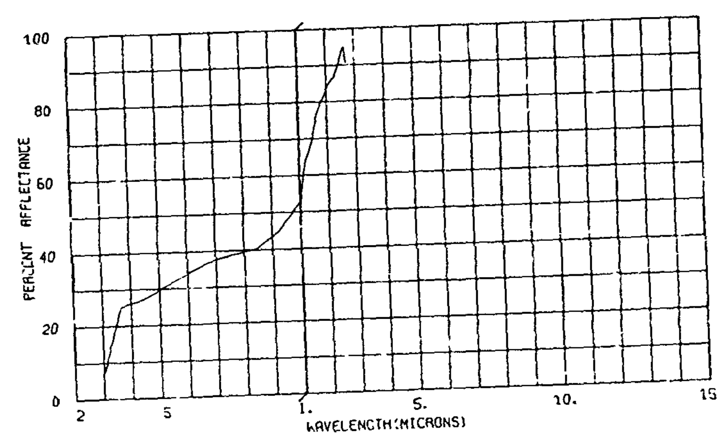
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-004 ALUMINUM ALLOY 24-ST (ALCLAD)--OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEA CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-001 1100-O ALUMINUM (COMMERCIALLY PURE), 305 HOURS AT 252 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB FCCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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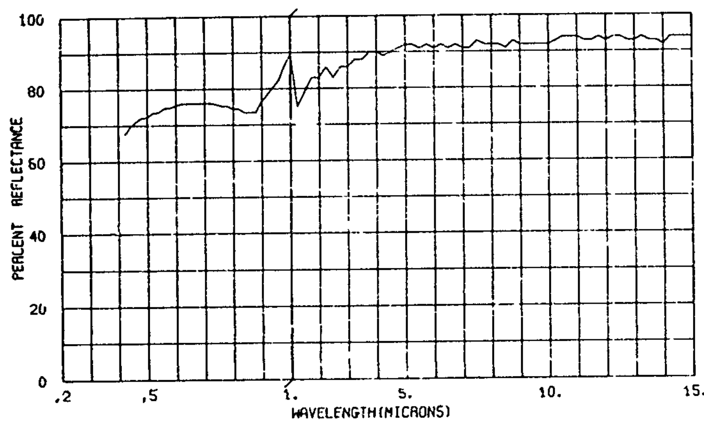
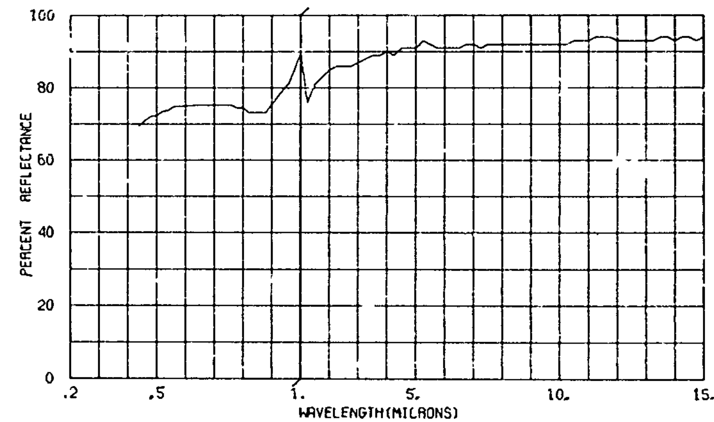


805289-002 1100-O ALUMINUM (COMMERCIALLY PURE), 210 HOURS AT 296 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-003 1100-O ALUMINUM (COMMERCIALLY PURE), 305 HOURS AT 305 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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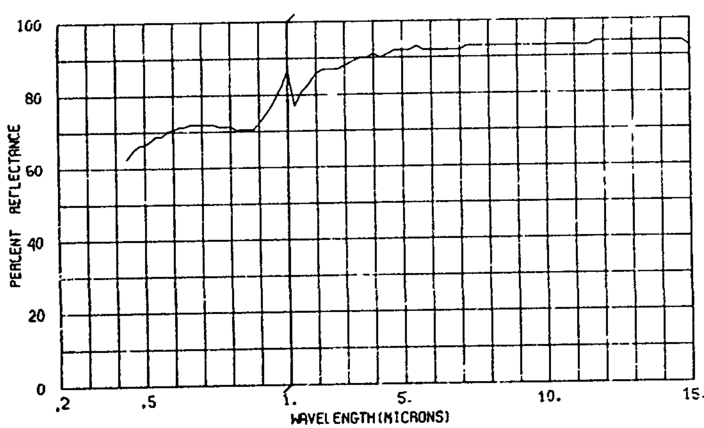
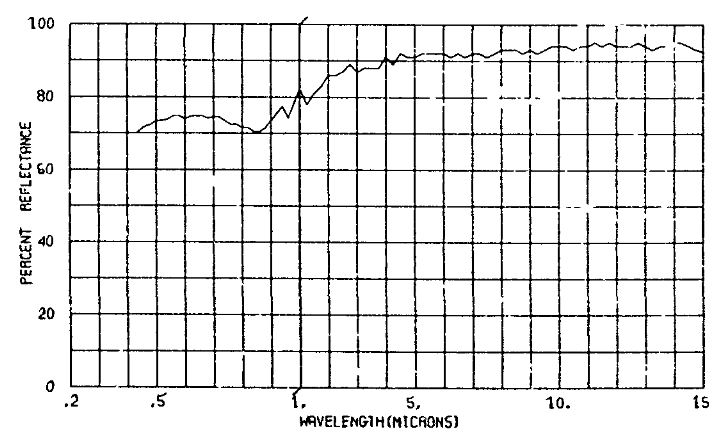


805289-004 1100-O ALUMINUM (COMMERCIALLY PURE), 306 HOURS AT 585 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

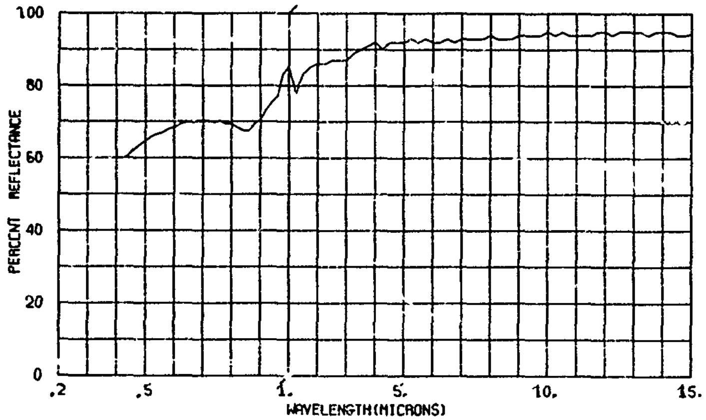
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-005 1100-0 ALUMINUM (COMMERCIALLY PURE), 100 HOURS AT 810 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

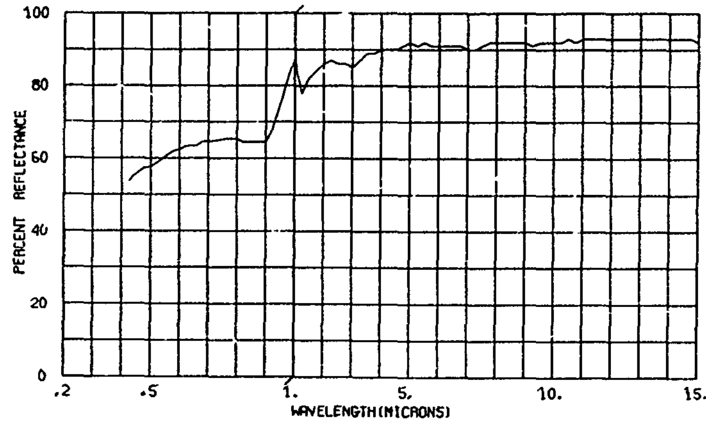
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-006 1100-0 ALUMINUM (COMMERCIALLY PURE), 300 HOURS AT 820 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

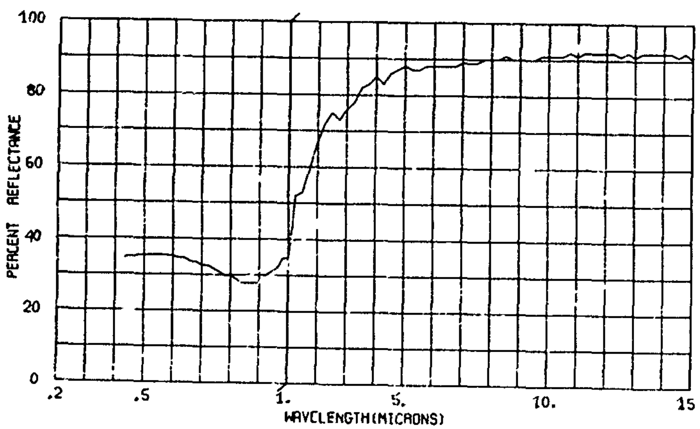
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-007 1100-0 ALUMINUM (COMMERCIALLY PURE), 393 HOURS AT 1003 DEGREES F. IN AIR.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

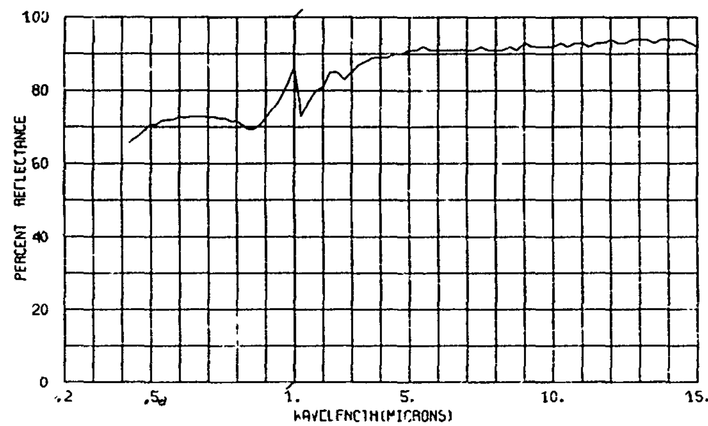
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-008 1100-0 ALUMINUM (COMMERCIALLY PURE), NO THERMAL TREATMENT.

SUBJECT CODES
AEA CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

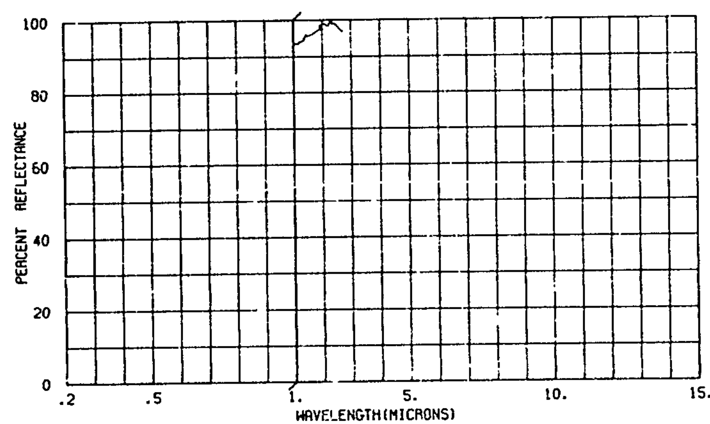
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-574 BRICK, YELLOW, INSULATING (A1800).

SUBJECT CODES
AEC CDA CED DFAA DFCE DK ECCA ECCB

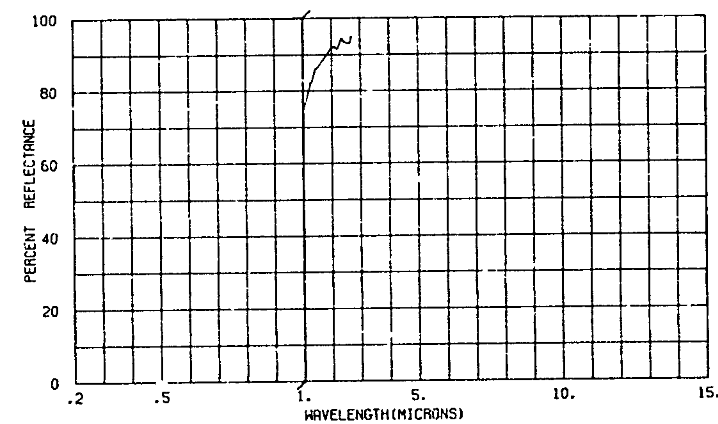
PARAMETER INFORMATION
DATE= 28 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-575 BRICK, LIGHT YELLOW, INSULATING (A2800).

SUBJECT CODES
AEC ECBBC CDA CED DFAA DFCE DK ECCA ECCB

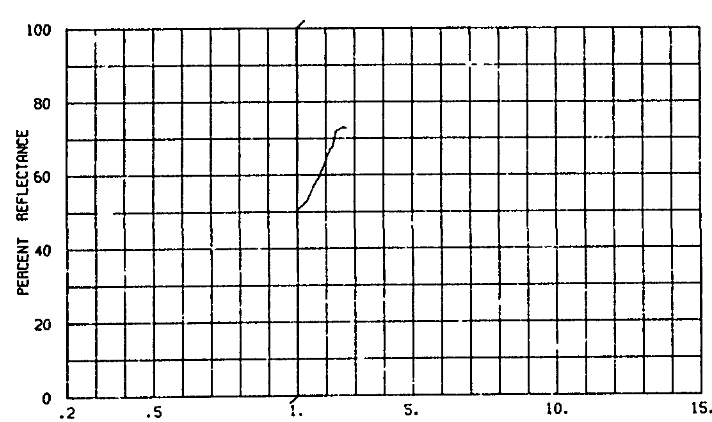
PARAMETER INFORMATION
DATE= 28 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-576 BRICK, MEDIUM BROWN, INSULATING (A2800).

SUBJECT CODES
AEC ECBBF CDA CED DFAA DFCE DK ECCA ECCB

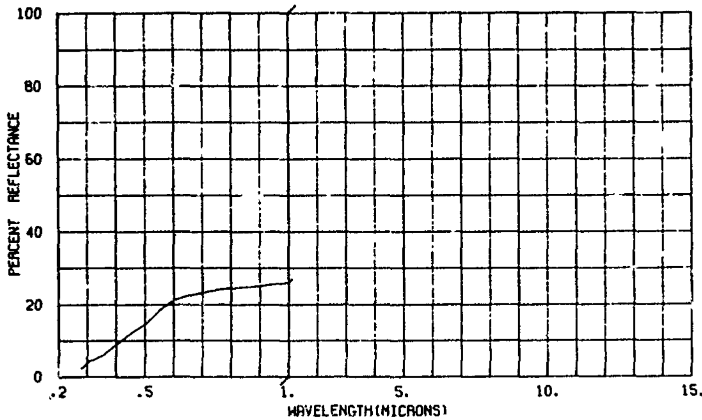
PARAMETER INFORMATION
DATE= 8 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-372 CONCRETE, FLOOR SURFACING EXPOSED TO OUT OF DOORS CONDITIONS FOR 24 YEARS.

SUBJECT CODES
AEG COA CED OFAA DFCE DK ECAC ECAD ECB ECCA

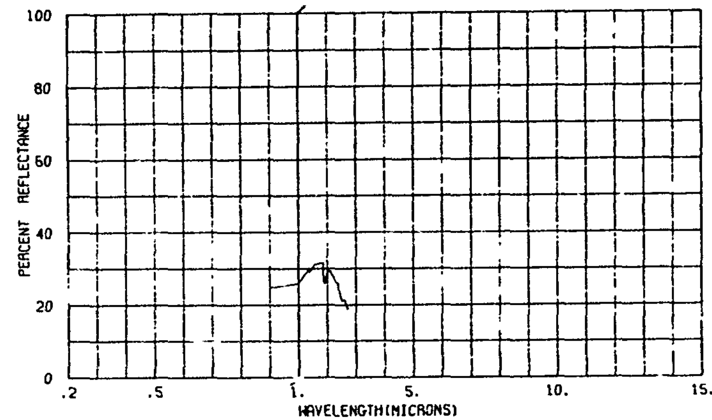
PARAMETER INFORMATION
DATE= 21 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-373 CONCRETE, FLOOR SURFACING EXPOSED TO OUT OF DOORS CONDITIONS FOR 24 YEARS.

SUBJECT CODES
AEG COA CED OFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 21 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-343 CONCRETE FROM WILLOW RUN AIRPORT APRON

SUBJECT CODES
AEG COA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATICN
DATE= 31 10 67 TIME= LAT= 42.5 N LONG= 83.0 W ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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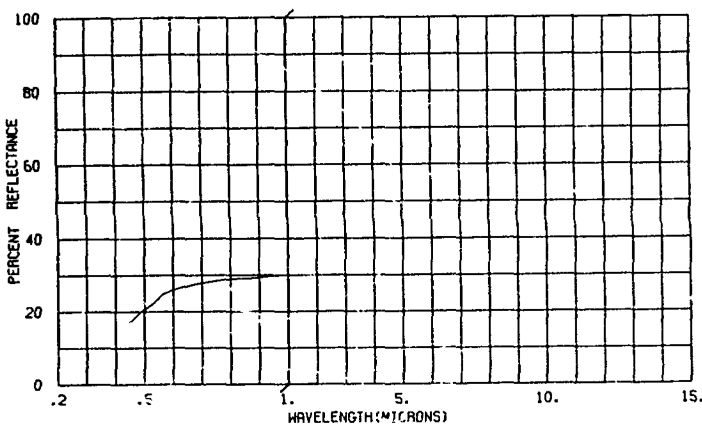

B20001-348 CONCRETE FROM WILLOW RUN AIRPORT APRON

SUBJECT CODES
AEG CUA CED CFAA DFCE DK ECCA ECCB

PARAMETER INFORMATICN
CATE= 31 10 67 TIME= LAT= 42.5 N LONG= 83.0 W ALT= RANGE=
DAYS RE= IN= C3.0 IAZ= CN= CAZ= IRR= E
OBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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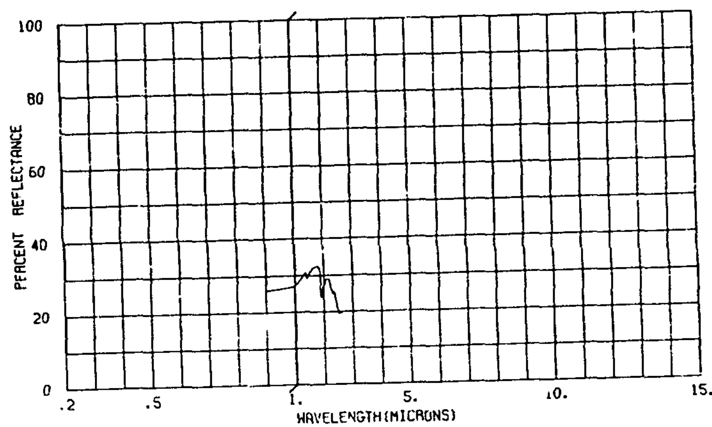
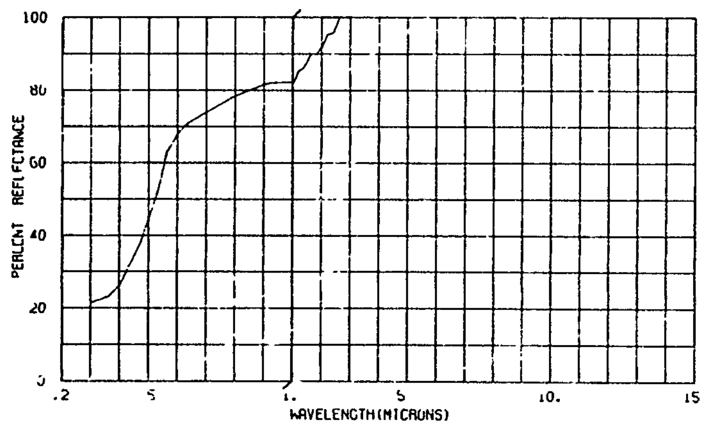


803856-006 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 92-96 PCT., ALUMINUM 4-7 PCT., IRON .5 PCT. MAX.--POLISHED.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION

DATE=	58 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

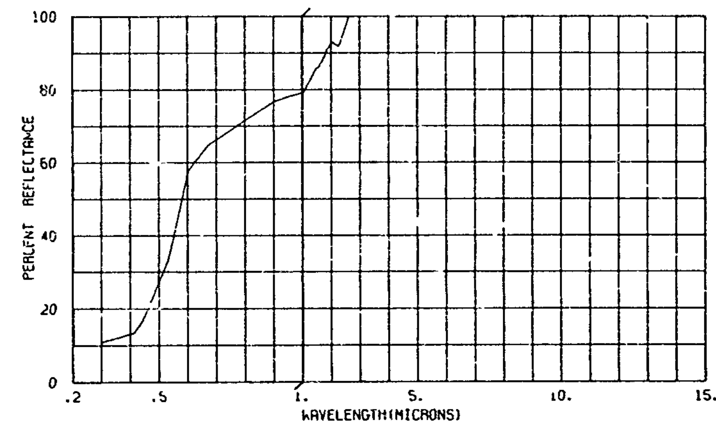


803856-007 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 92-96 PCT., ALUMINUM 4-7 PCT., IRON .5 PCT. MAX.--CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION

DATE=	58 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

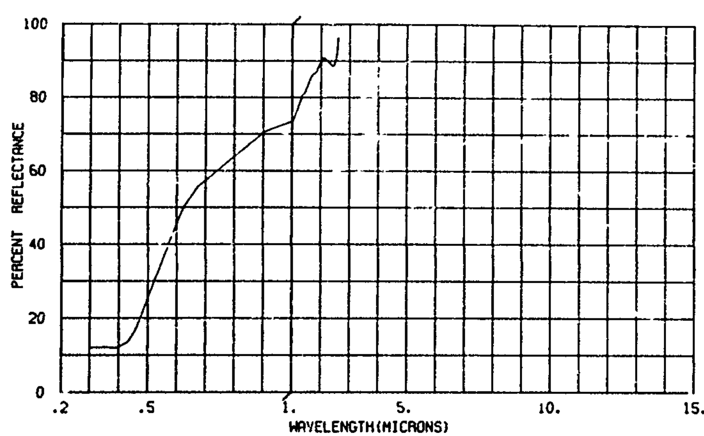


803856-008 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 92-96 PCT., ALUMINUM 4-7 PCT., IRON .5 PCT. MAX.--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION

DATE=	58 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



803856-009 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 92-96 PCT., ALUMINUM 4-7 PCT., IRON .5 PCT. MAX.--OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION

DATE=	58 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
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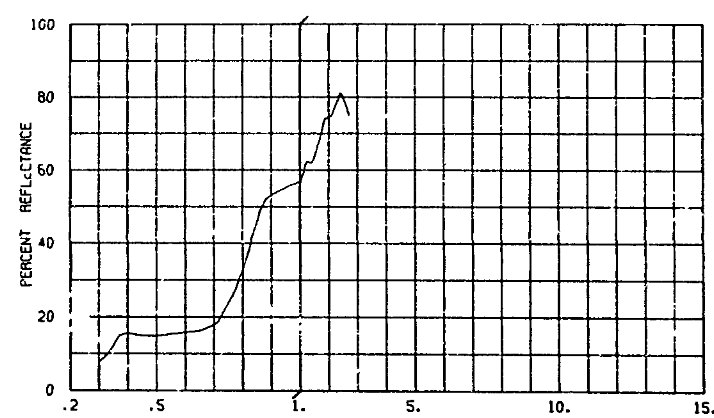

003856-010 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 88-92.5 PCT., ALUMINUM 6-8 PCT., IRON 3.5 PCT. MAX., MANGANESE 1 PCT. MAX.--POLISHED.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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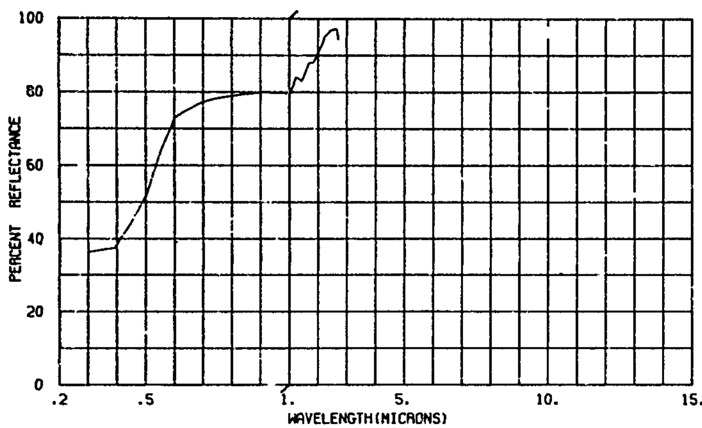
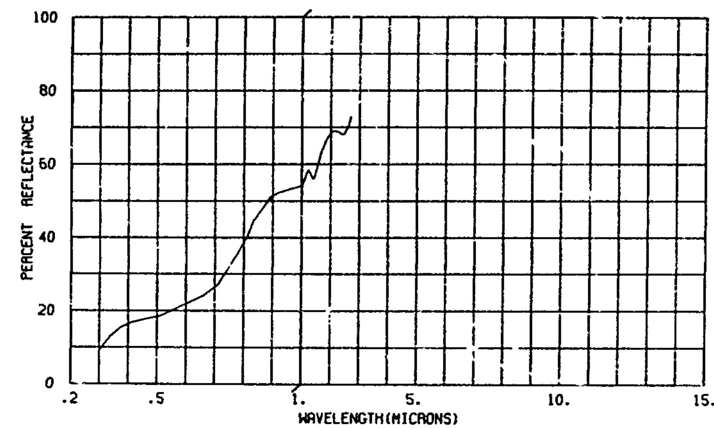


003856-011 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 88-92.5 PCT., ALUMINUM 6-8 PCT., IRON 3.5 PCT. MAX., MANGANESE 1 PCT. MAX.--OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

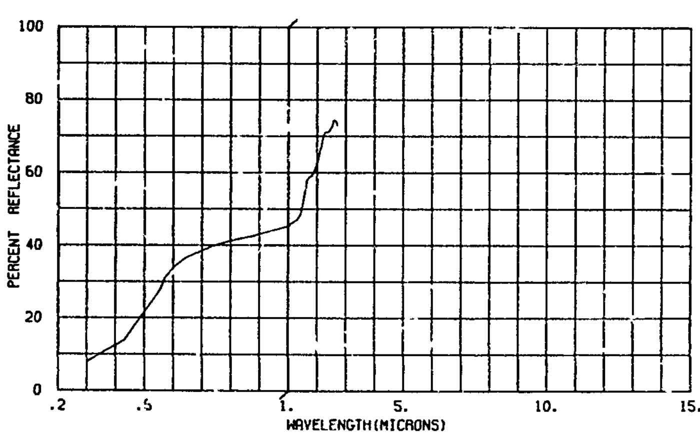
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



003856-012 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 88-92.5 PCT., ALUMINUM 6-8 PCT., IRON 3.5 PCT. MAX., MANGANESE 1 PCT. MAX.--CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

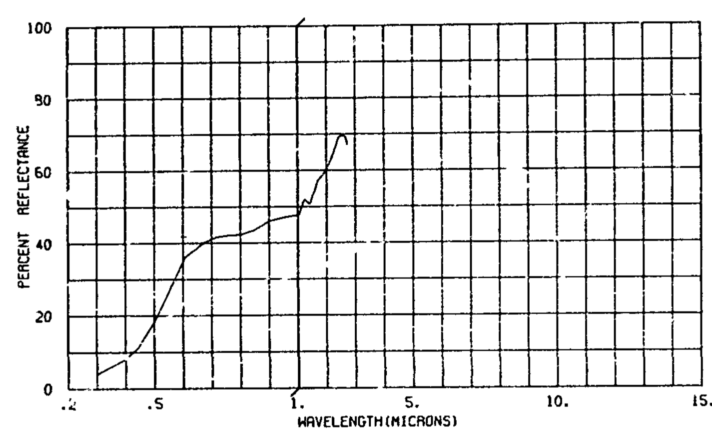
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



003856-013 ALUMINUM BRONZE (SPEC. QQ-B-667)--COPPER 88-92.5 PCT., ALUMINUM 6-8 PCT., IRON 3.5 PCT. MAX., MANGANESE 1 PCT. MAX.--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

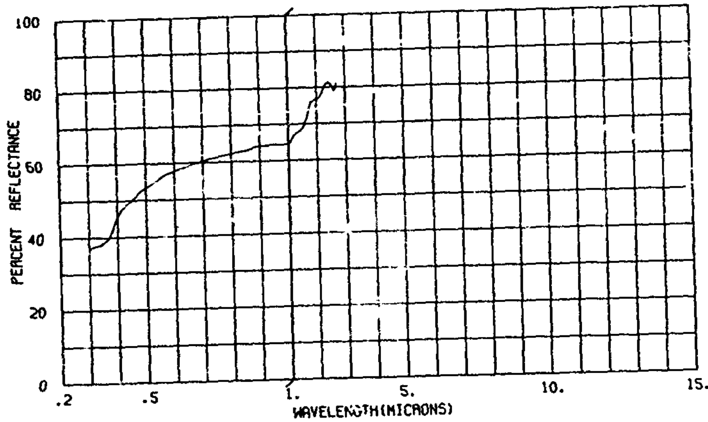
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-014 COBALT ALLOY N-155—POLISHED.

SUBJECT CODES
AEL CD CED DFA OFF DK ECAD ECB ECCA ECCB

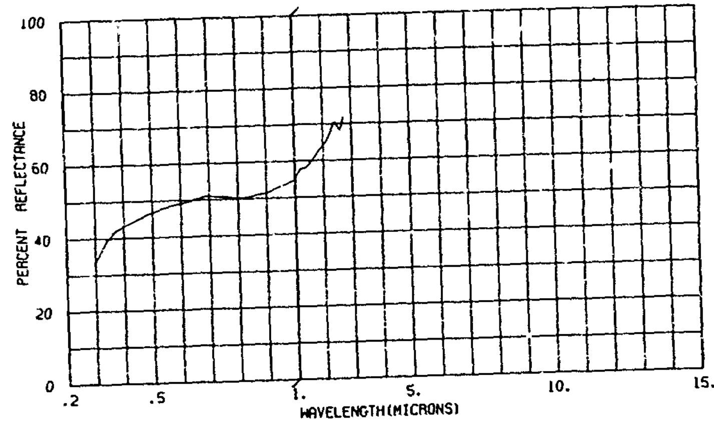
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-015 COBALT ALLOY N-155—CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA OFF DK ECAD ECB ECCA ECCB

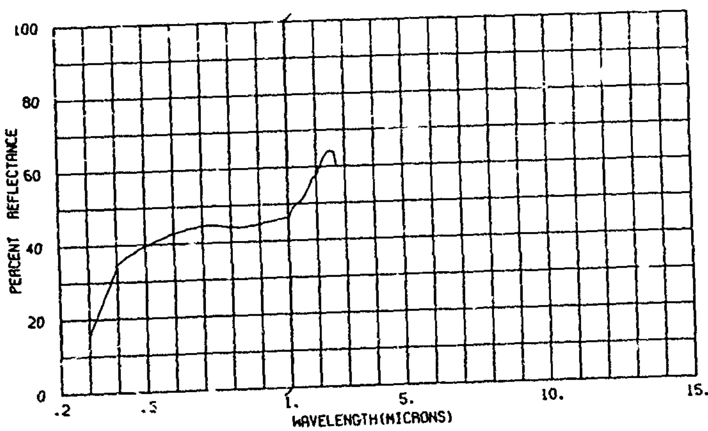
PARAMETER INFORMATION
DATE= 8 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-016 COBALT ALLOY N-155—AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA OFF DK ECAD ECB ECCA ECCB

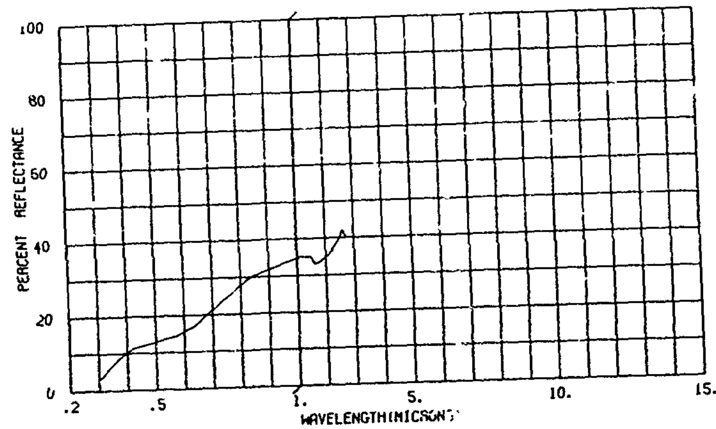
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-017 COBALT ALLOY N-155—OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEL CD CED DFA OFF DK ECAD ECB ECCA ECCB

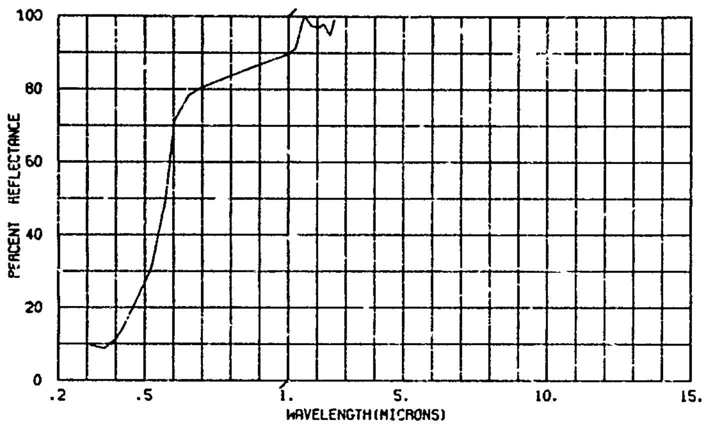
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-018 ELECTROLYTIC, TOUGH PITCH COPPER (SPEC. QQ-C-576 OR, QQ-C-502)--CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

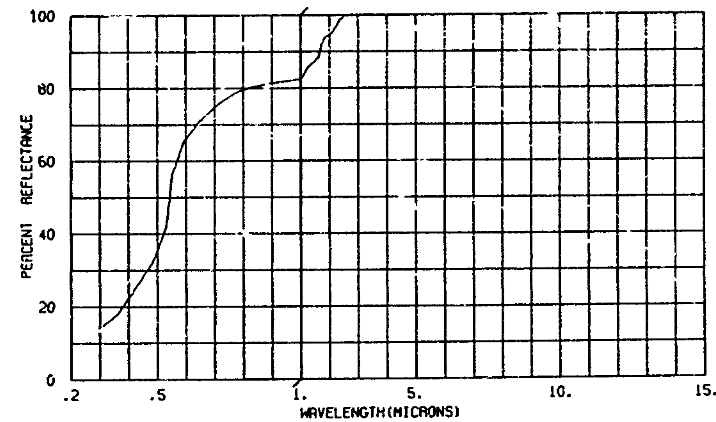
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-019 ELECTROLYTIC, TOUGH PITCH COPPER (SPEC. QQ-C-576 OR, QQ-C-502)--POLISHED.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

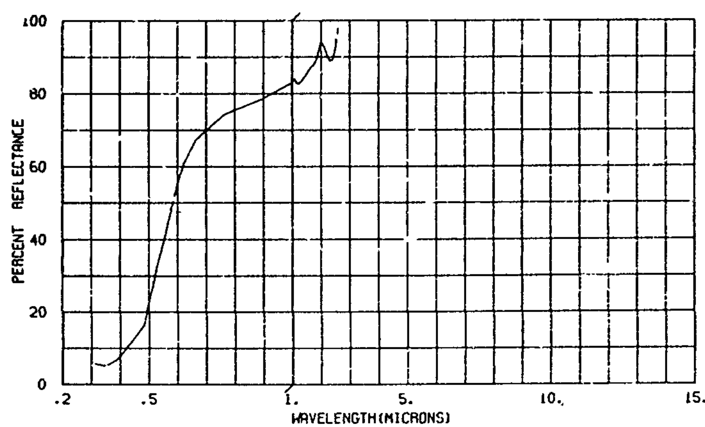
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-020 ELECTROLYTIC, TOUGH PITCH COPPER (SPEC. QQ-C-576 OR, QQ-C-502)--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

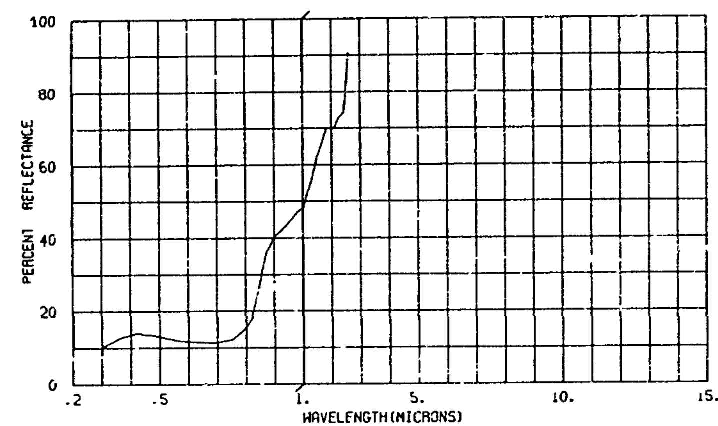
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-021 ELECTROLYTIC, TOUGH PITCH COPPER (SPEC. QQ-C-576 OR, QQ-C-502)--OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

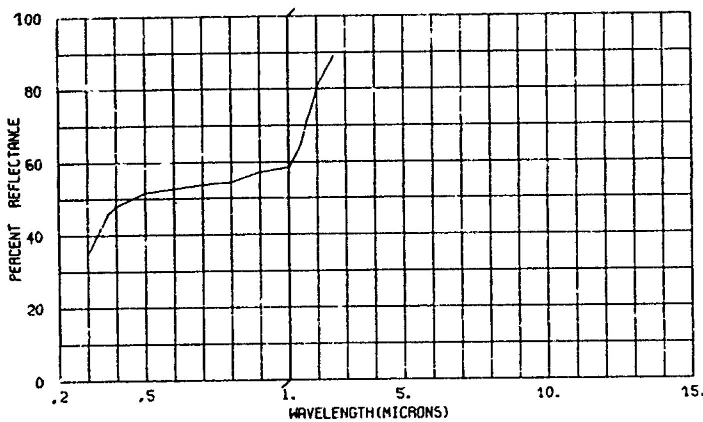
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-031 ARMCO INGOT IRON--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CFD DFA DFF DK ECAD ECB ECCA ECCB

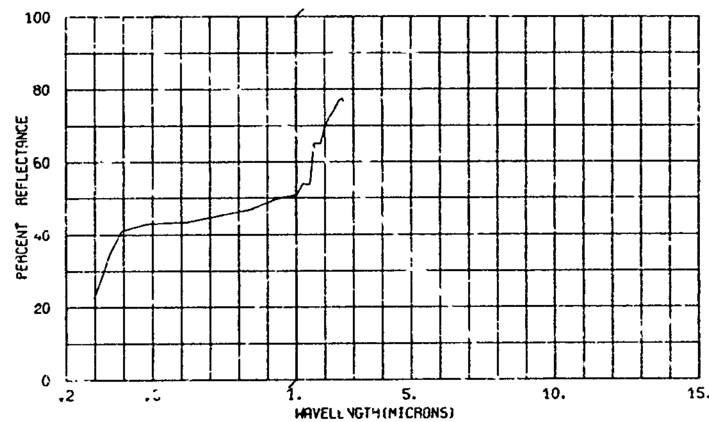
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-032 ARMCO INGOT IRON--FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CCD DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-033 STAINLESS STEEL TYPE 321 (MIL-S-6721A), ANNEALED CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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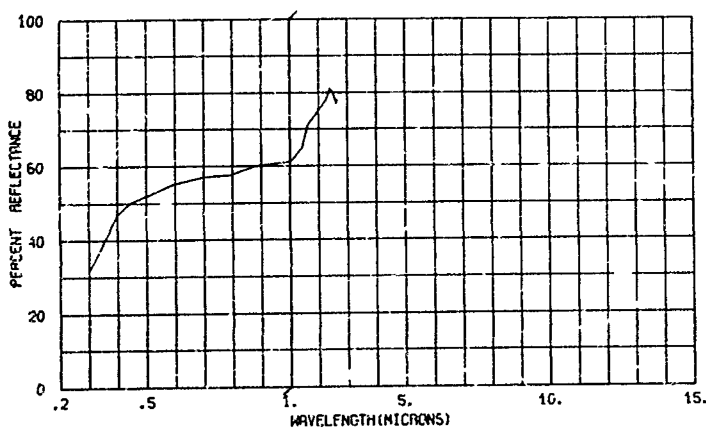
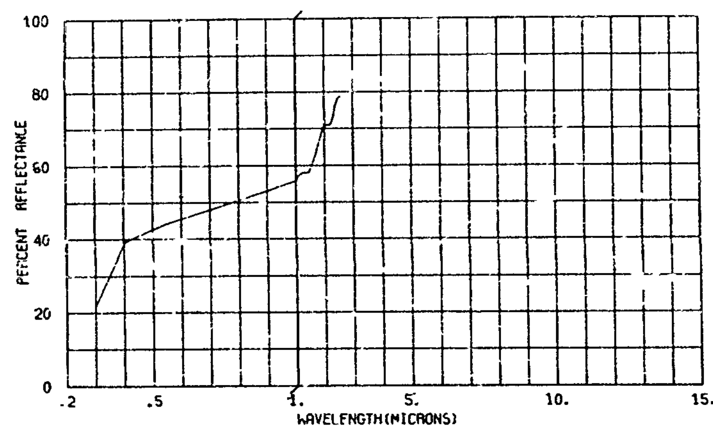


803856-034 STAINLESS STEEL TYPE 321 (MIL-S-6721A), ANNEALED CONDITION--BRIGHT, RMS RATING UNSPECIFIED.

SUBJECT CODES
AEL CC CED DFA DFF DK ECAD ECB ECCA ECCB

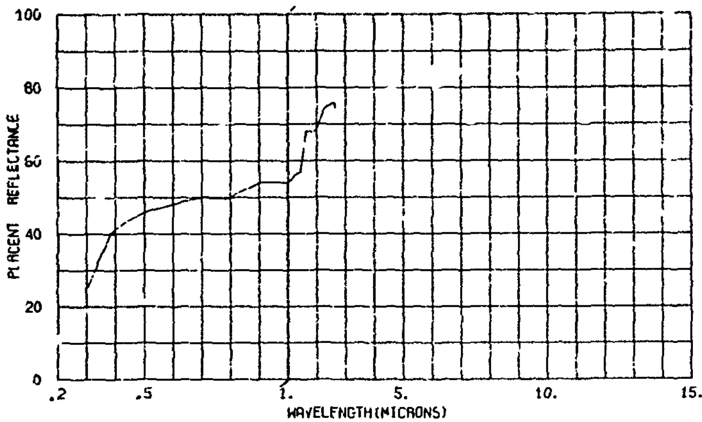
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-035 STAINLESS STEEL TYPE 321 (MIL-S-6721A), ANNEALED CONDITION— FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

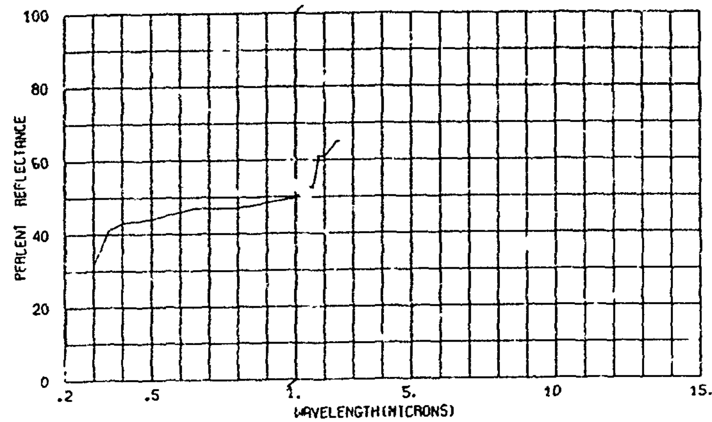
PARAMETER INFORMATION
DATE= 58 TIME= LA.- LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-036 STAINLESS STEEL TYPE 321 (MIL-S-6721A), ANNEALED CONDITION— DULL, FINISH HAVING AN RMS RATING OF ABOUT 6 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001

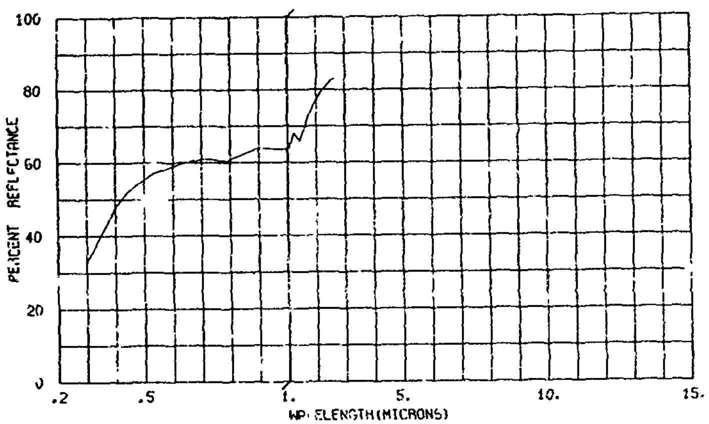


AEL 26

803856-037 STAINLESS STEEL TYPE 316 (MIL-S-5059A), ANNEALED CONDITION— FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

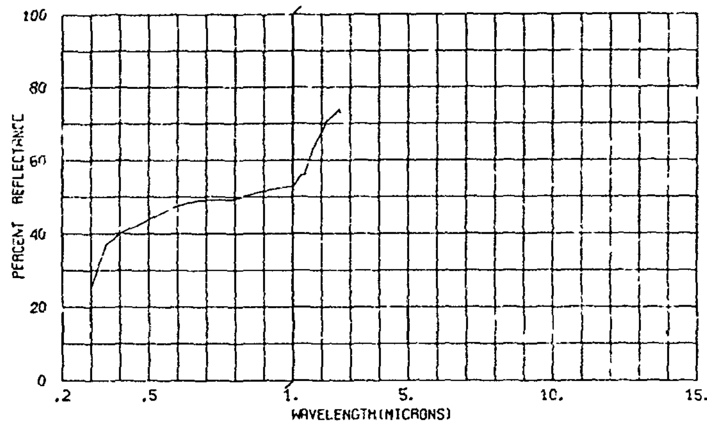
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-038 STAINLESS STEEL TYPE 316 (MIL-S-5059A), ANNEALED CONDITION — FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

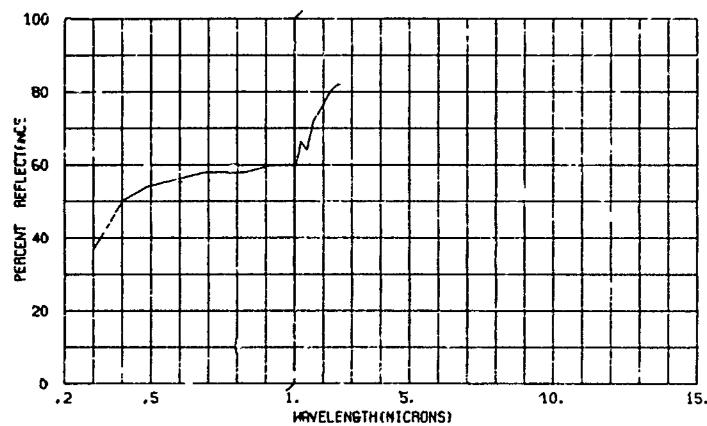
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-039 STAINLESS STEEL TYPE AM350 (AIRCRAFT GRADE), SUBZERO COOLED AND TEMPERED--FINISH HAVING AN RMS RATING OF ABOUT 2 MICRO-INCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

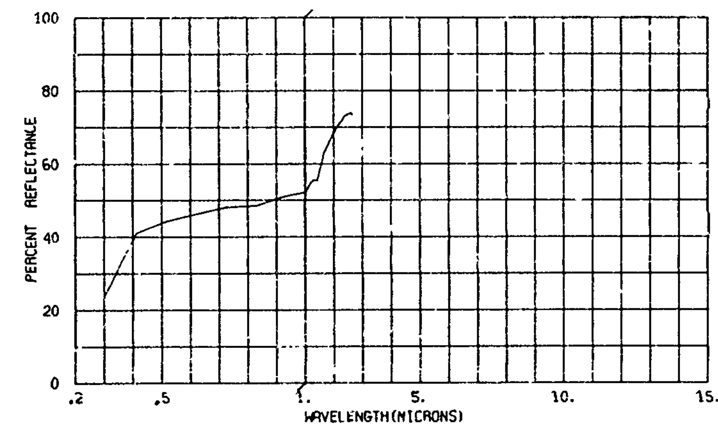
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= L
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-040 STAINLESS STEEL TYPE AM350 (AIRCRAFT GRADE), SUBZERO COOLED AND TEMPERED--FINISH HAVING AN RMS RATING OF ABOUT 15 MICRO-INCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CC CED DFA DFF DK ECAD ECB ECCA ECCB

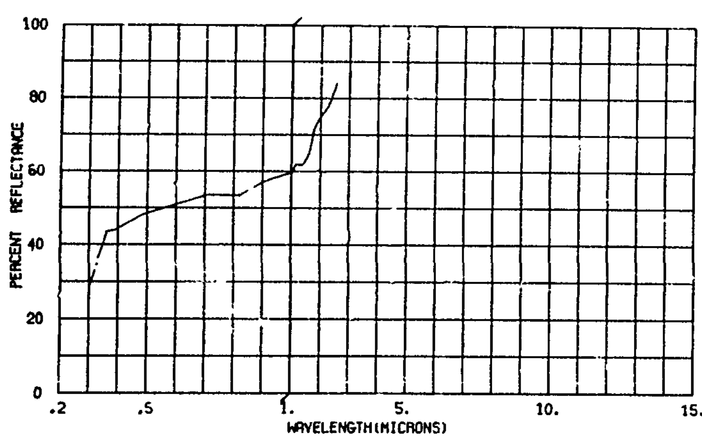
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-041 STAINLESS STEEL TYPE 446 (QQ-S-763A), ANNEALED CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEAS-URED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

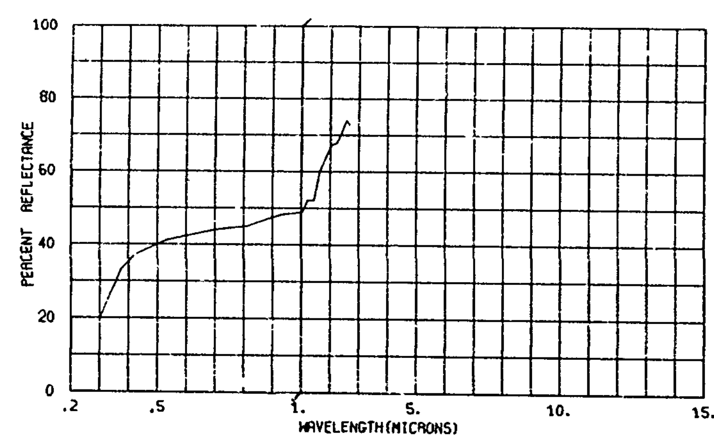
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-042 STAINLESS STEEL TYPE 446 (QQ-S-763A), ANNEALED CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEAS-URED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

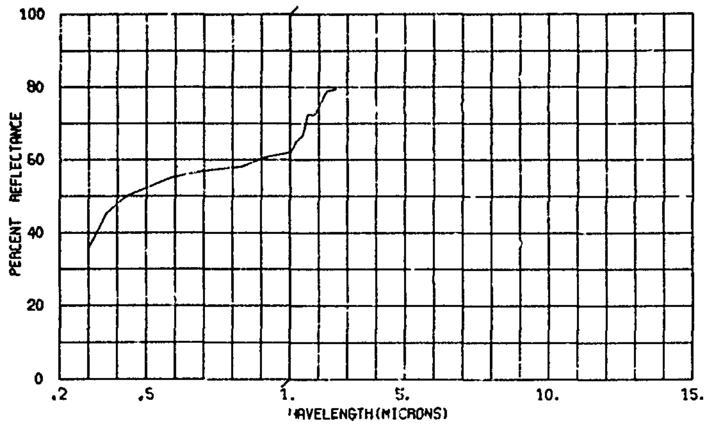
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-043 STAINLESS STEEL TYPE 17-7PH (MIL-S-25043A), ANNEALED CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-044 STAINLESS STEEL TYPE 17-7PH (MIL-S-25043A), ANNEALED CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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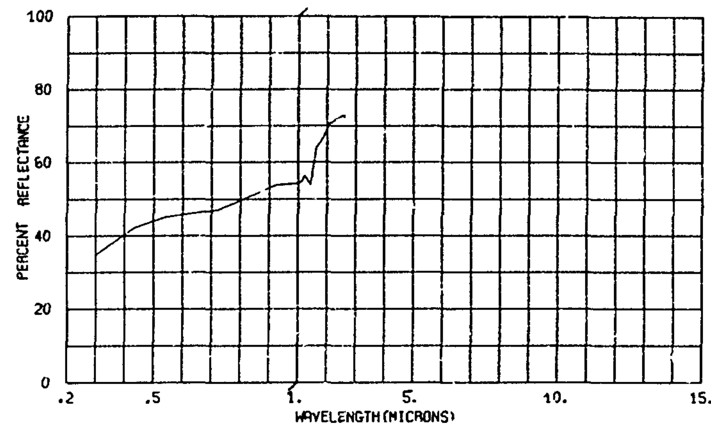

803856-045 STAINLESS STEEL TYPE PH 15-7MO, RH950 CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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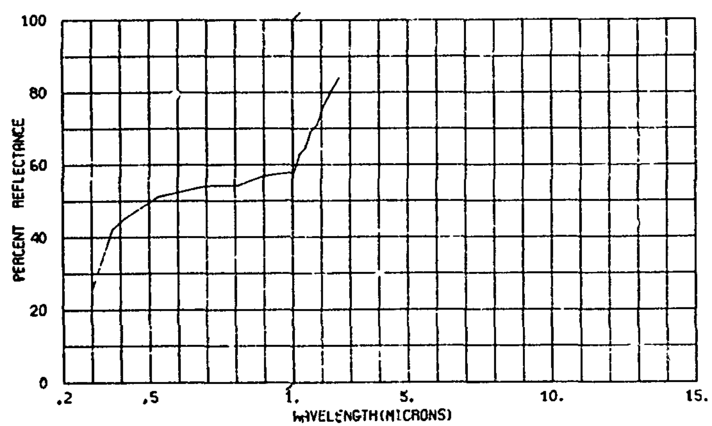

803856-046 STAINLESS STEEL TYPE PH 15-7MO, RH950 CONDITION--FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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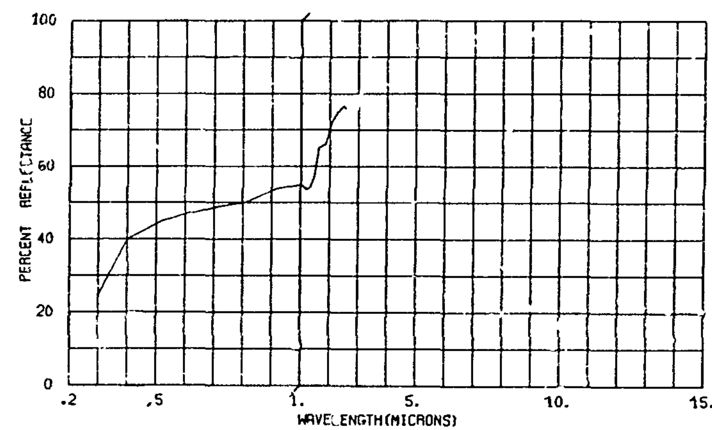

803856-048 MAGNESIUM ALLOY AZ31--COATED WITH DOW 17 PLUS TWO COATS PV101.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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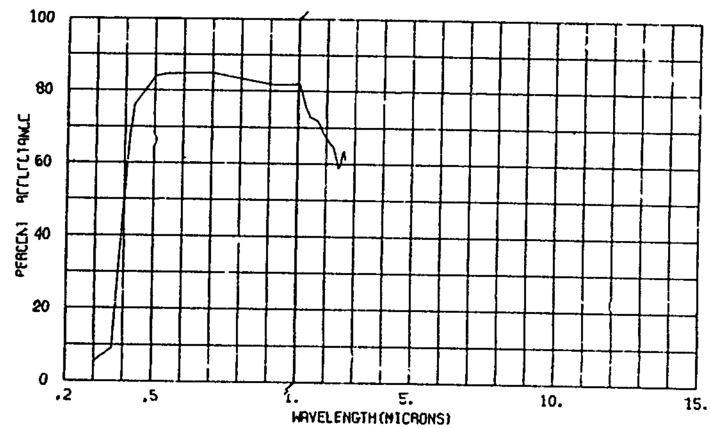

803856-049 MAGNESIUM ALLOY HK31--COATED WITH DOW 7 PLUS ONE COAT ZINC CHROMATE (MIL-P-6889) PLUS TWO COATS PV100 (PROPOSED MIL-E-25606) PLUS ONE COAT 8103.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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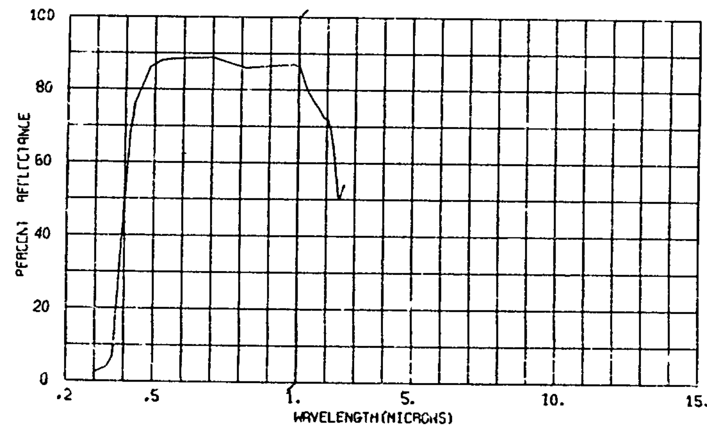

803856-050 MOLYBDENUM (CLIMAX MOLYBDENUM CO.), ARC MELTED UNALLOYED--POLISHED.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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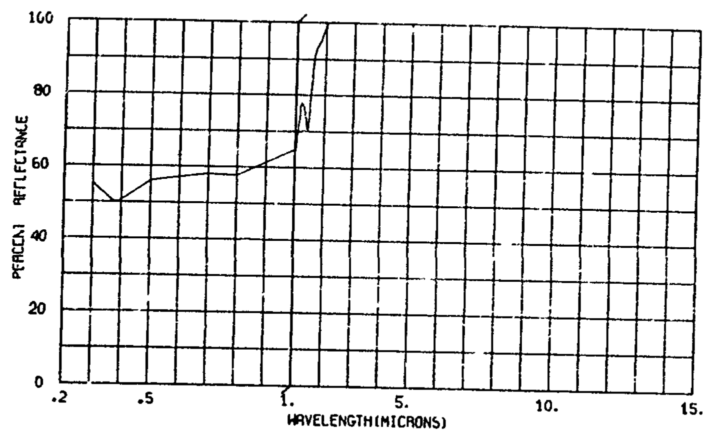

803856-051 MOLYBDENUM (CLIMAX MOLYBDENUM CO.), ARC MELTED UNALLOYED--CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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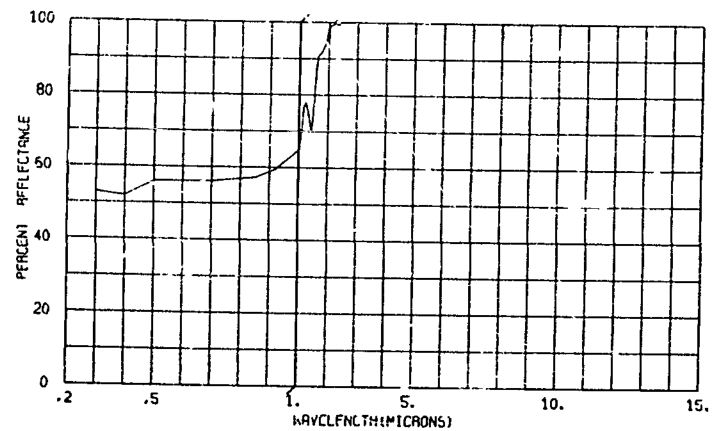

803856-052 MOLYBDENUM (CLIMAX MOLYBDENUM CO.), ARC MELTED UNALLOYED--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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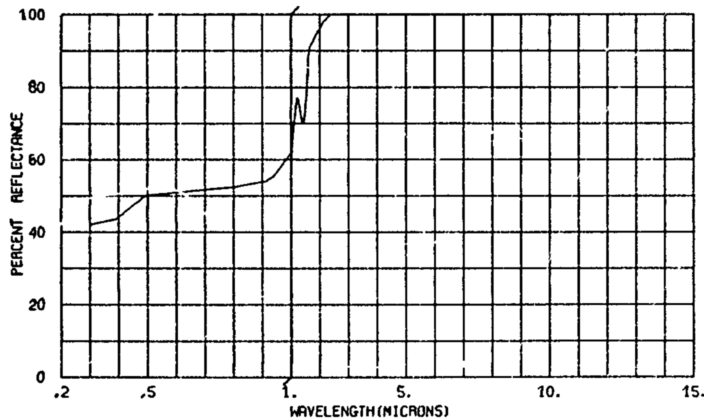
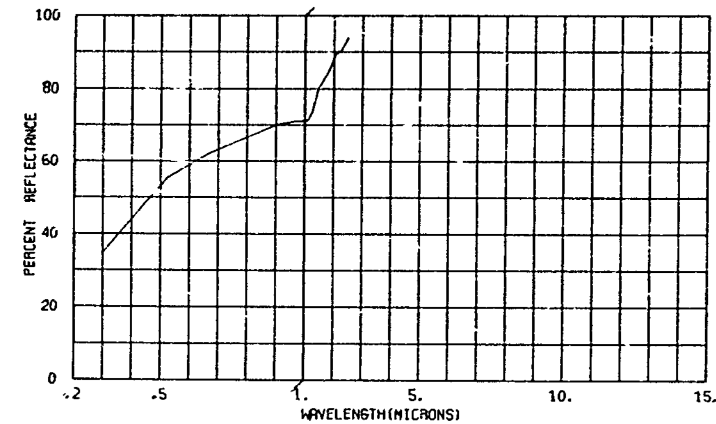


803856-053 NICKEL, COMMERCIAL GRADE A--POLISHED.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



803856-054 NICKEL, COMMERCIAL GRADE A--CLEANED WITH LIQUID DETERGENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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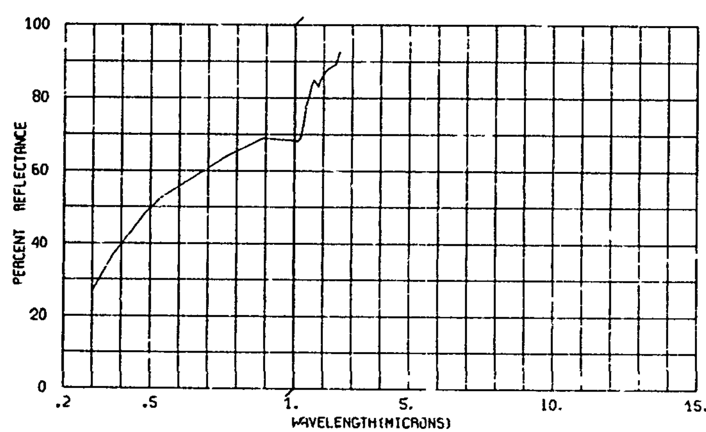

803856-055 NICKEL, COMMERCIAL GRADE A--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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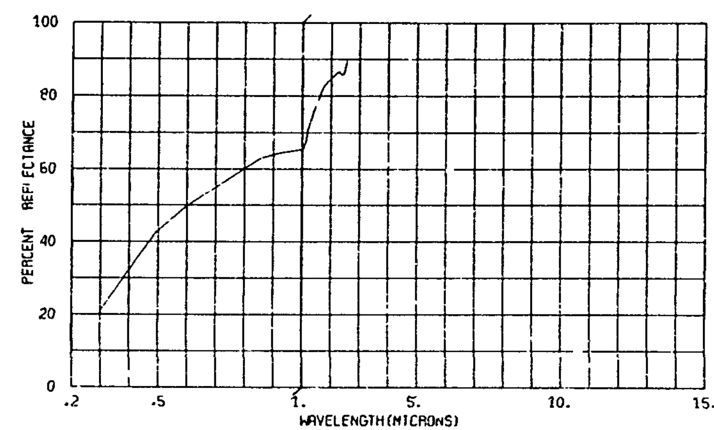
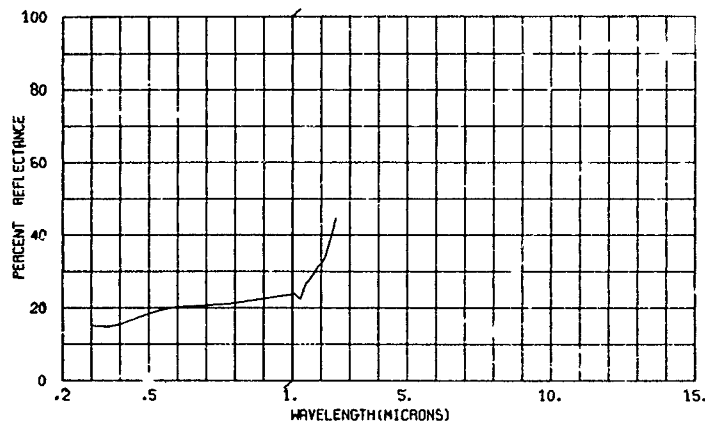


B03856-056 NICKEL, COMMERCIAL GRADE A--OXIDIZED IN AIR AT RED HEAT FOR 30 MINUTES.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

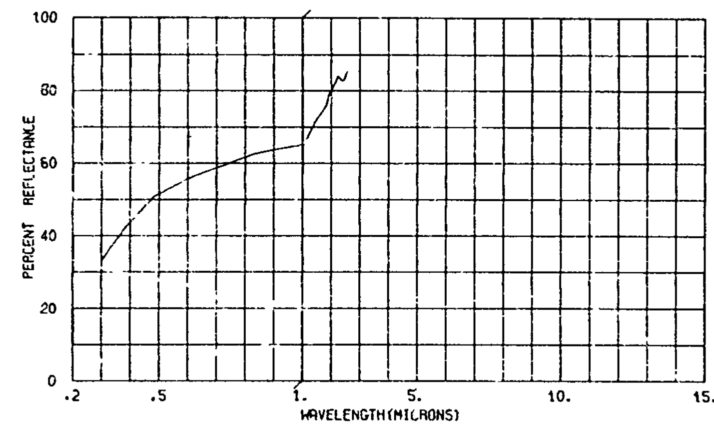
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= C
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-057 HASTELLOY C (AMS 5530C), ANNEALED--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

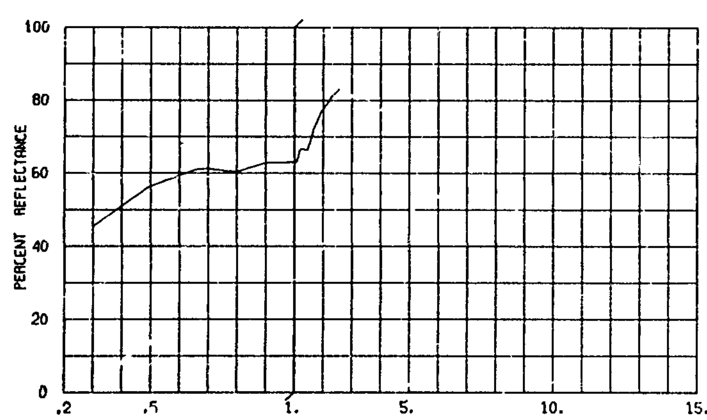
PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-058 HASTELLOY B (AIRCRAFT GRADE), ANNEALED--FINISH HAVING AN RMS RATING OF ABOUT 2 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-059 HASTELLOY C (AMS 5530C), ANNEALED--FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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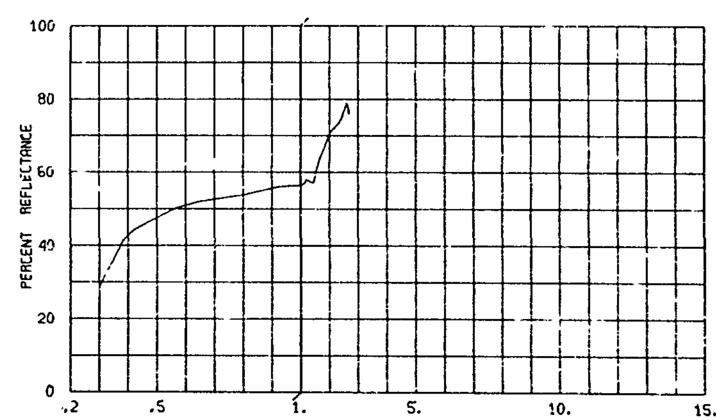

803856-060 HASTELLOY B (AIRCRAFT GRADE), ANNEALED—FINISH HAVING AN RMS RATING OF ABOUT 15 MICROINCHES AS MEASURED WITH A SURFAGAGE.

SUBJECT CODES
AEL CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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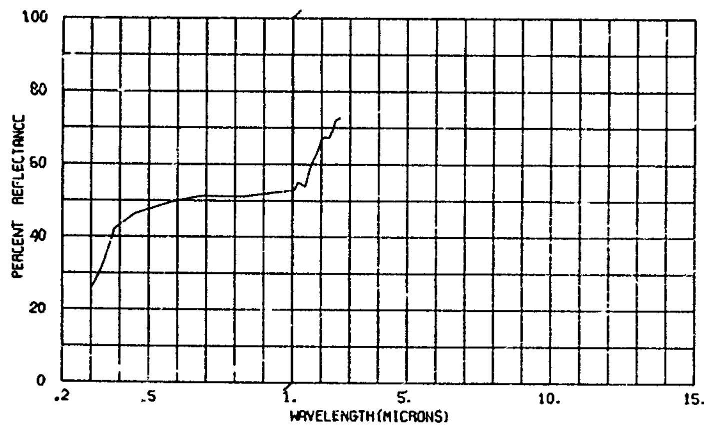

803856-061 PALLADIUM (PURE METAL)—AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEL CC CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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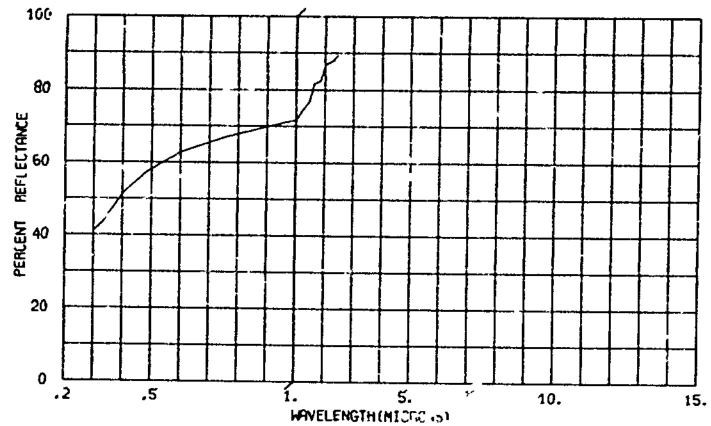

805289-017 TI-75A TITANIUM (COMMERCIALLY PURE), 356 HOURS AT 585 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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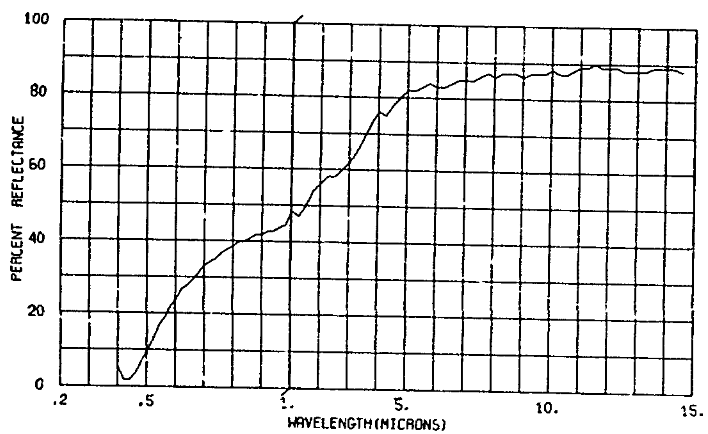

805289-018 TI-75A TITANIUM (COMMERCIALLY PURE), 1__ HOURS AT 810 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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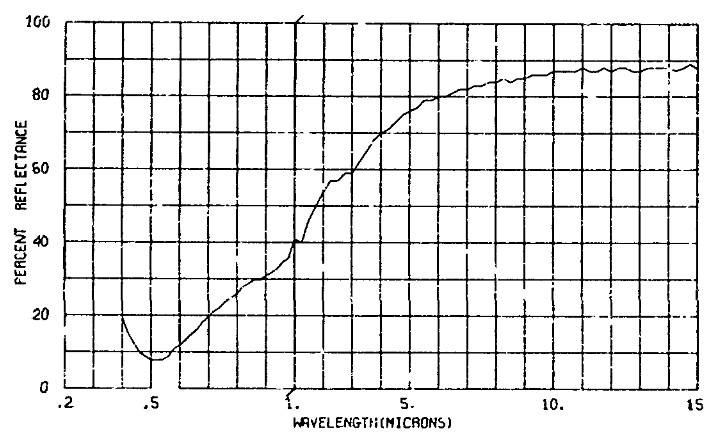

B05289-019 T1-75A TITANIUM (COMMERCIALLY PURE), 300 HOURS AT 820 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF OK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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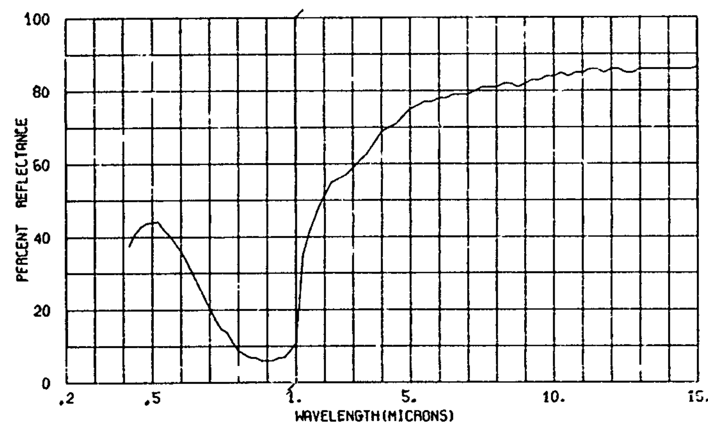

B05289-020 T1-75A TITANIUM (COMMERCIALLY PURE), 303 HOURS AT 871 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF OK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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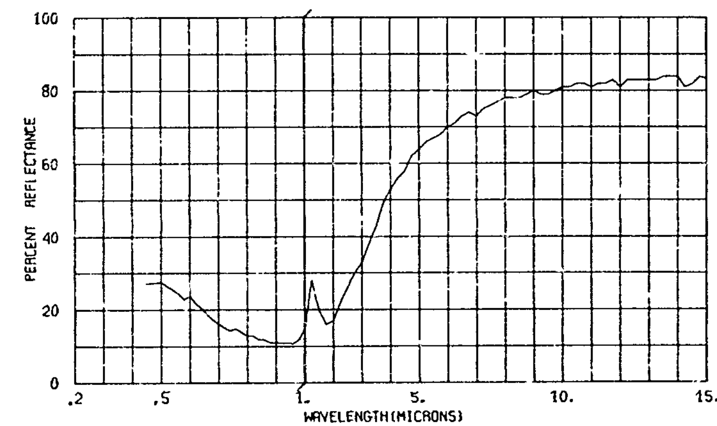

B05289-021 T1-75A TITANIUM (COMMERCIALLY PURE), 303 HOURS AT 1003 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF OK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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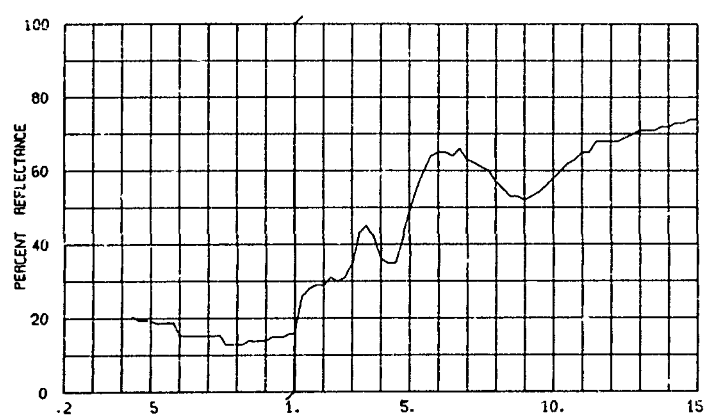

B05289-022 T1-75A TITANIUM (COMMERCIALLY PURE), NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF OK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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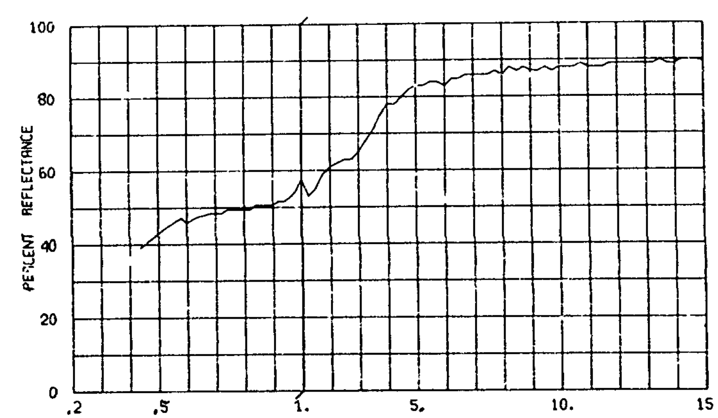

805289-023 C-110M TITANIUM ALLOY, 306 HOURS AT 585 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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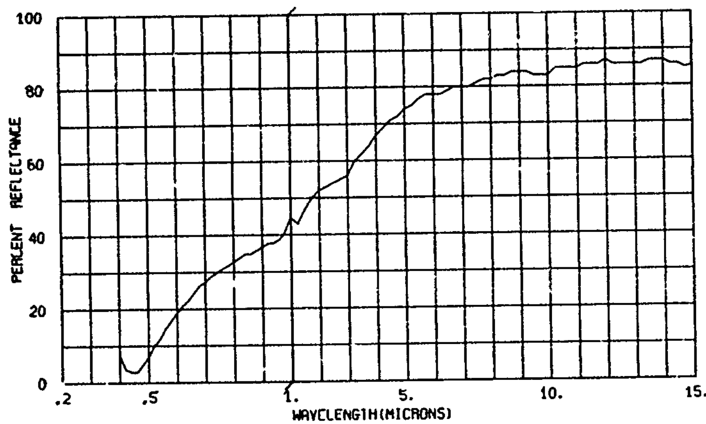

805289-024 C-110M TITANIUM ALLOY, 100 HOURS AT 810 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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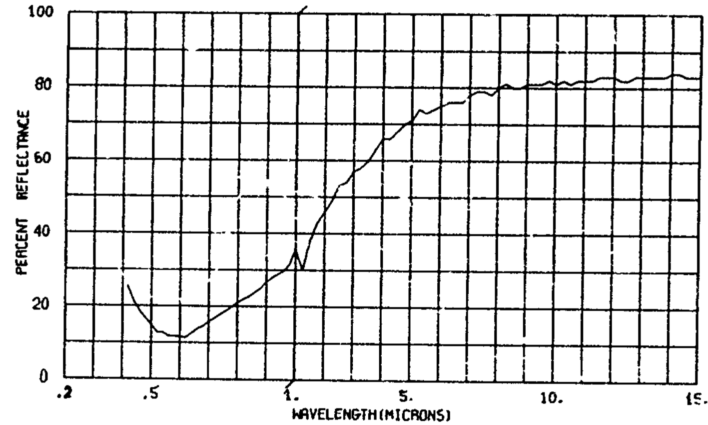

805289-025 C-110M TITANIUM ALLOY, 306 HOURS AT 820 DEGREES F. IN AIR.

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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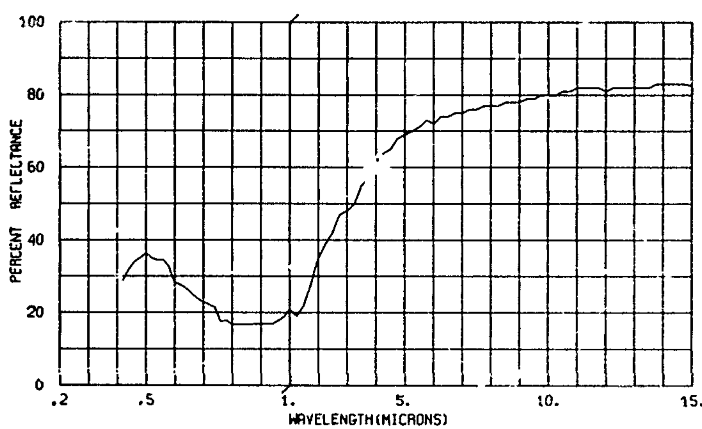

805289-026 C-110M TITANIUM ALLOY, 303 HOURS AT 871 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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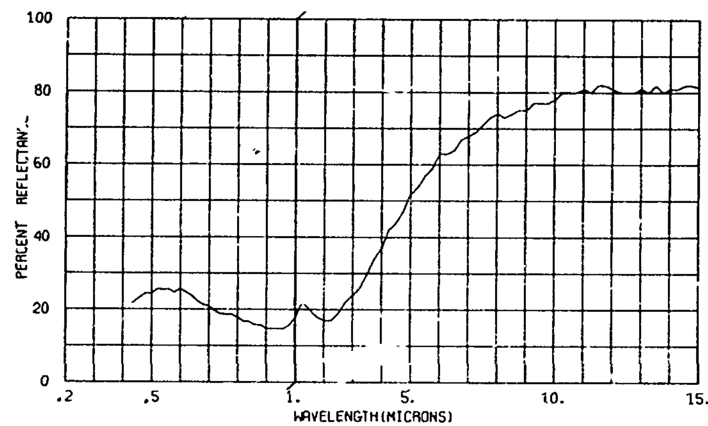

805289-027 C-110M TITANIUM ALLOY, 303 HOURS AT 1003 DEGREES F. IN AIR.

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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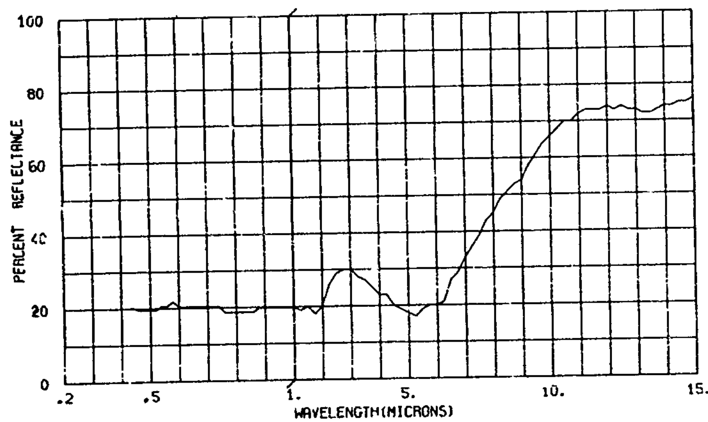

805289-028 C-110M TITANIUM ALLOY, NO THERMAL TREATMENT.

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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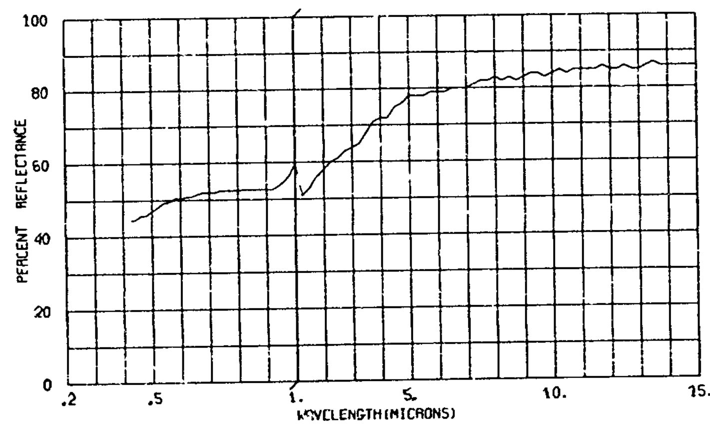

805289-029 AM 350 CORROSION RESISTANT STEEL, 306 HOURS AT 585 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CFD DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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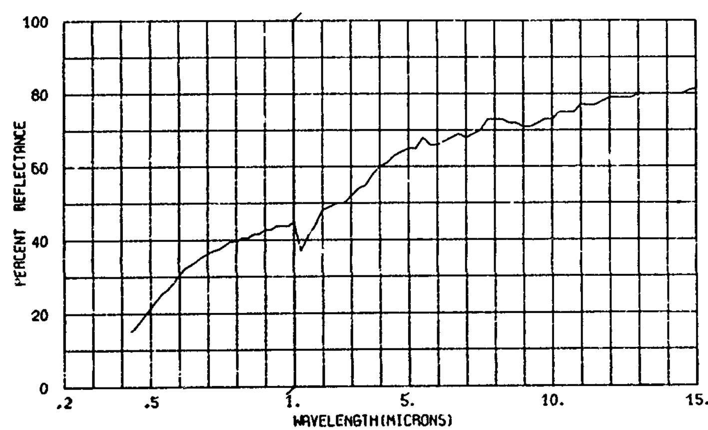

805289-030 AM 350 CORROSION RESISTANT STEEL, 306 HOURS AT 820 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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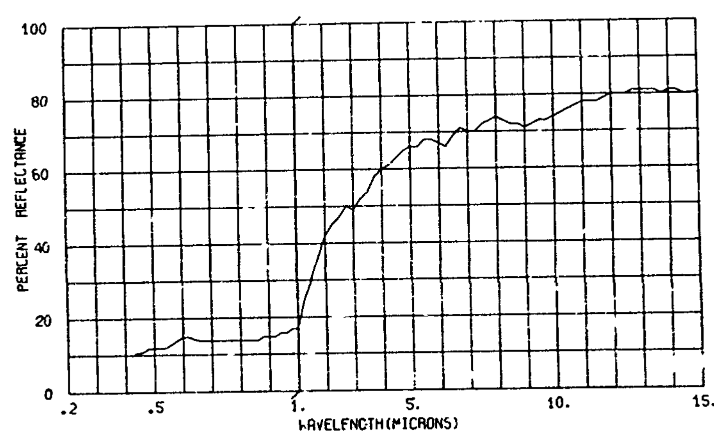
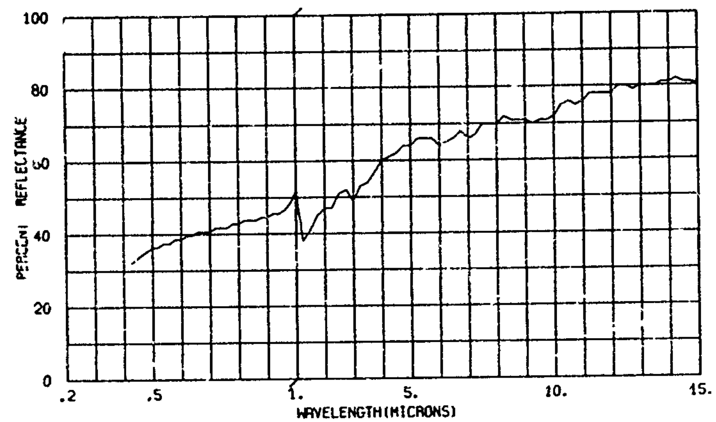


805289-031 AM 350 CORROSION RESISTANT STEEL, NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

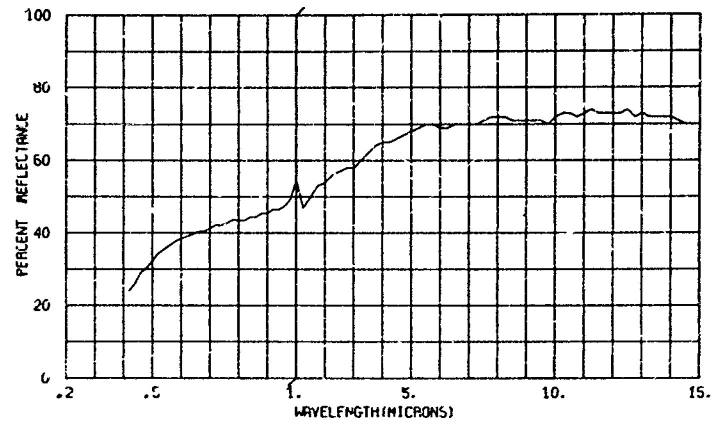
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-032 TYPE 321 CORROSION RESISTANT STEEL, 300 HOURS AT 497 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

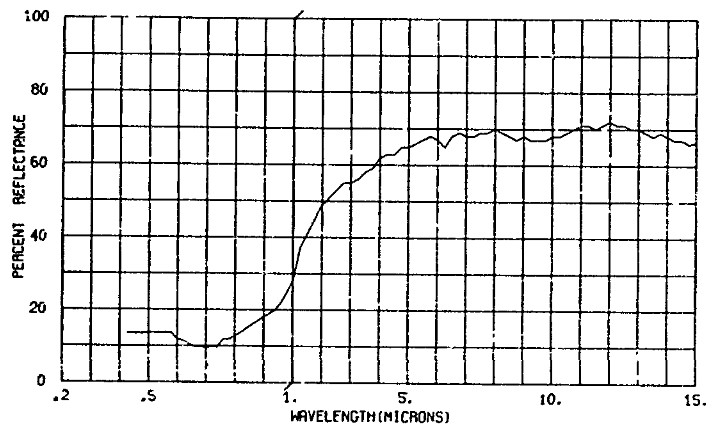
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-033 TYPE 321 CORROSION RESISTANT STEEL, 307 HOURS AT 690 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

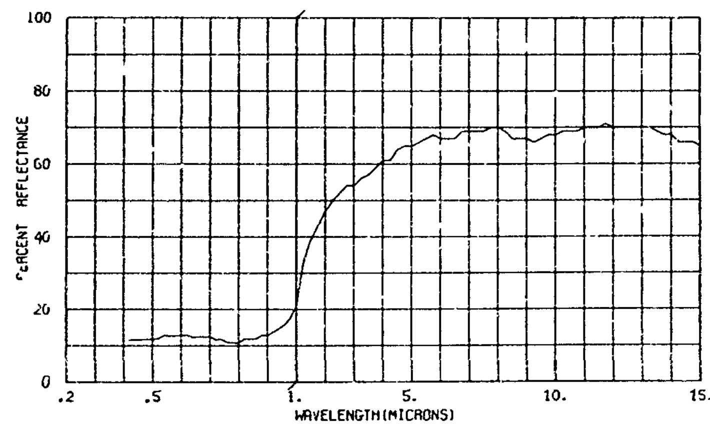
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-034 TYPE 321 CORROSION RESISTANT STEEL, 1000 HOURS AT 705 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

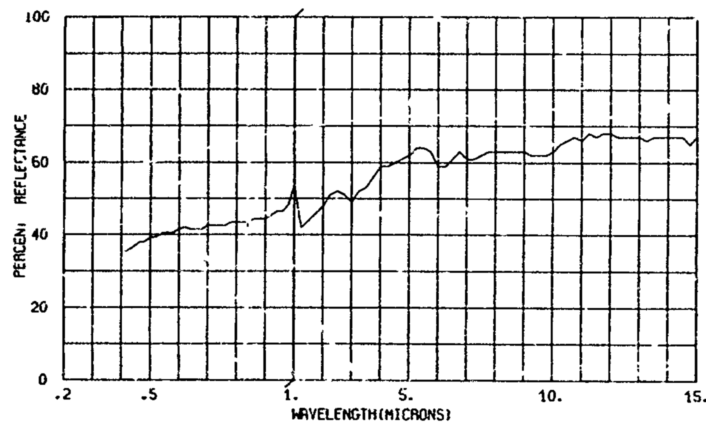
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-035 TYPE 321 CORROSION RESISTANT STEEL, NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

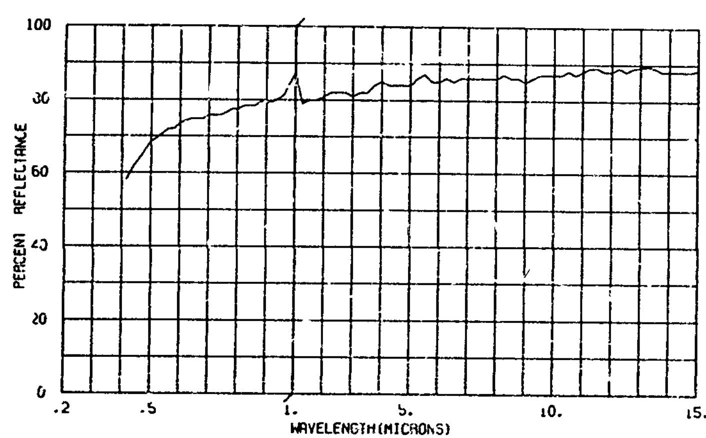
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-037 SILVER PLATE ON TYPE 321 CORROSION RESISTANT STEEL, AS PLATED (.0003 IN. THICKNESS OF PLATING). 303 HOURS AT 682 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

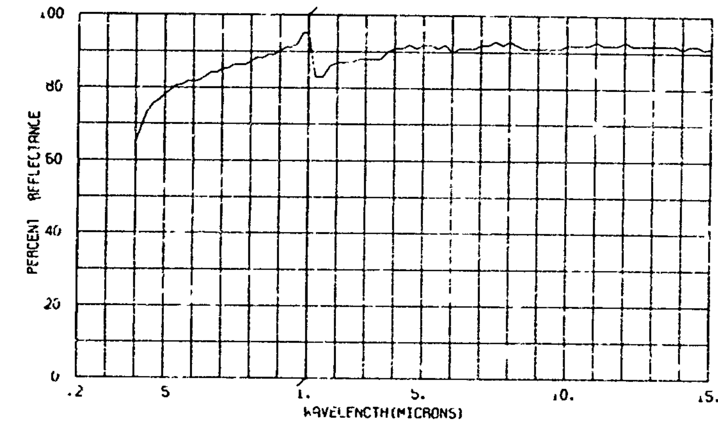
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-036 SILVER PLATE ON TYPE 321 CORROSION RESISTANT STEEL, AS PLATED (.0003 IN. THICKNESS OF PLATING). 303 HOURS AT 495 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

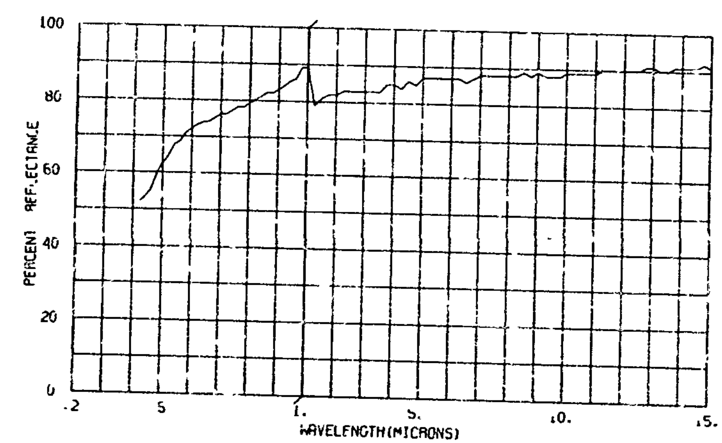
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-038 SILVER PLATE ON TYPE 321 CORROSION RESISTANT STEEL, AS PLATED (.0003 IN. THICKNESS OF PLATING). 1000 HOURS AT 692 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

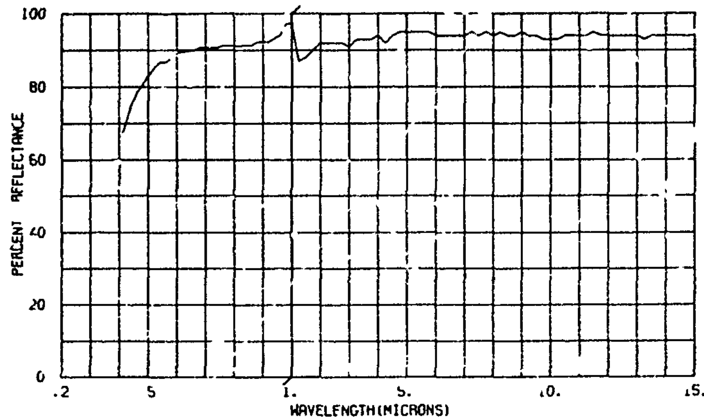
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-039 SILVER PLATE ON TYPE 321 CORROSION RESISTANT STEEL, POLISHED (.0003 IN. THICKNESS OF PLATING). NO THERMAL TREATMENT.

SUBJECT CODES
AEL CL CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

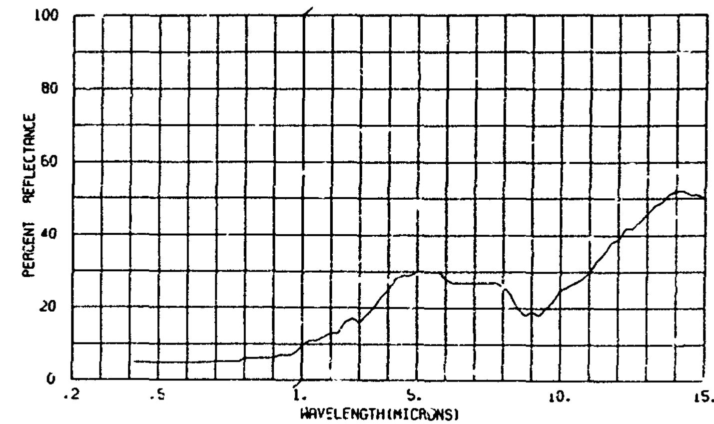
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-040 BLACK OXIDE COATING ON TYPE 321 CORROSION RESISTANT STEEL (.0004 IN. THICKNESS OF COATING). 303 HOURS AT 495 DEGREES F. IN AIR.

SUBJECT CODES
AEL ECBBL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

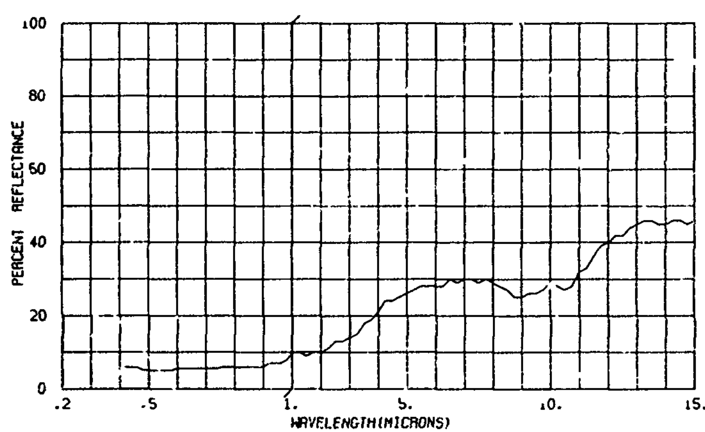
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-041 BLACK OXIDE COATING ON TYPE 321 CORROSION RESISTANT STEEL (.0004 IN. THICKNESS OF COATING). 303 HOURS AT 682 DEGREES F. IN AIR.

SUBJECT CODES
AEL ECBBL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

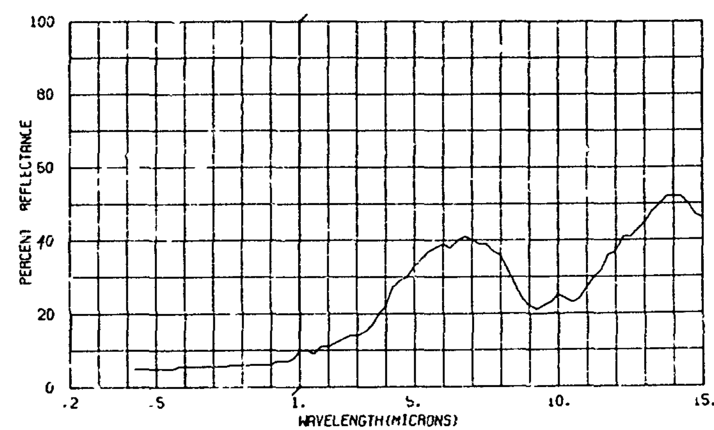
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-042 BLACK OXIDE COATING ON TYPE 321 CORROSION RESISTANT STEEL (.0004 IN. THICKNESS OF COATING). 1000 HOURS AT 692 DEGREES F. IN AIR.

SUBJECT CODES
AEL ECBBL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

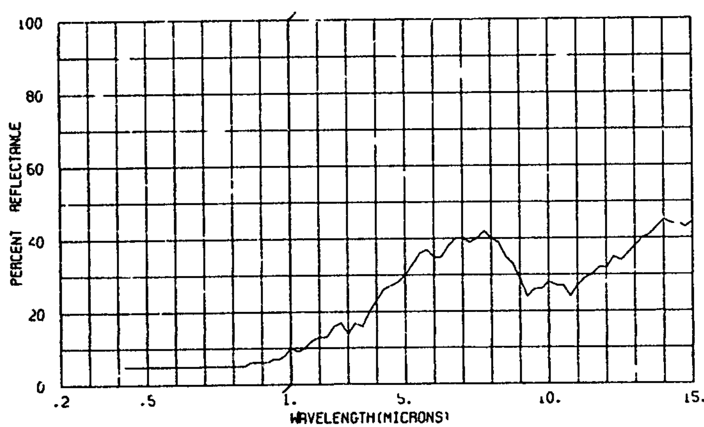
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-043 BLACK OXIDE COATING ON TYPE 321 CORROSION RESISTANT STEEL (.0004 IN. THICKNESS OF COATING). NO THERMAL TREATMENT.

SUBJECT CODES
AEL ECBAL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

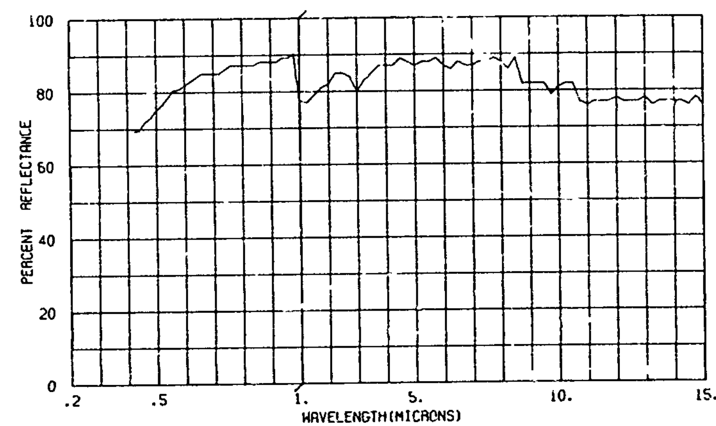
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-048 .0005 IN. SILVER PLATE .0005 IN. NICKEL PLATE ON COPPER FLASH ON 321 CORROSION RESISTANT STEEL. 90 HOURS AT 610 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

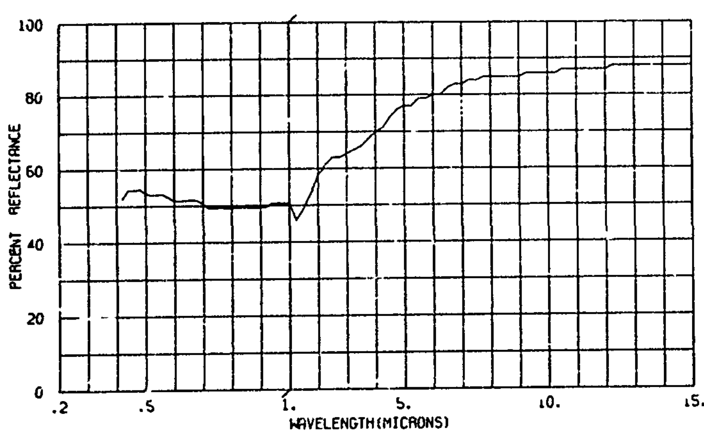
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-050 .0001 IN. CHROMIUM PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

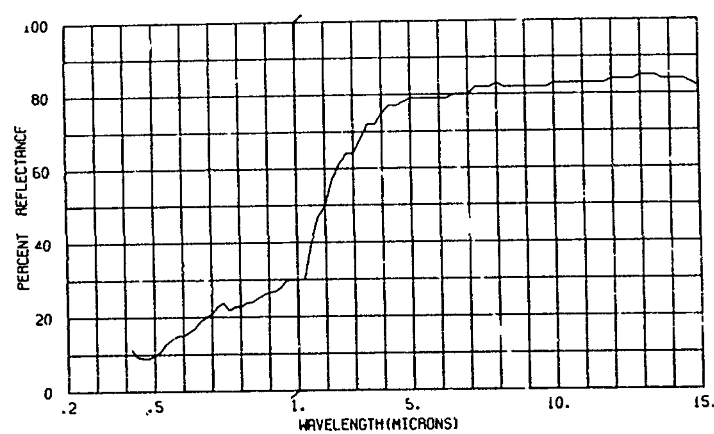
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-051 .0001 IN. CHROMIUM PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 800 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

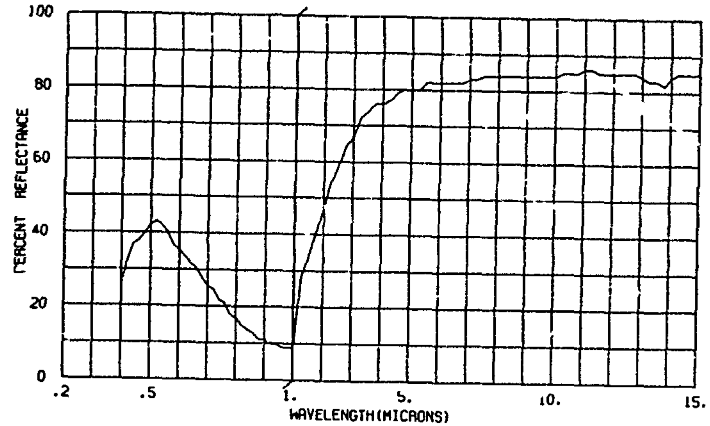
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-052 .0001 IN. CHROMIUM PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 1000 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

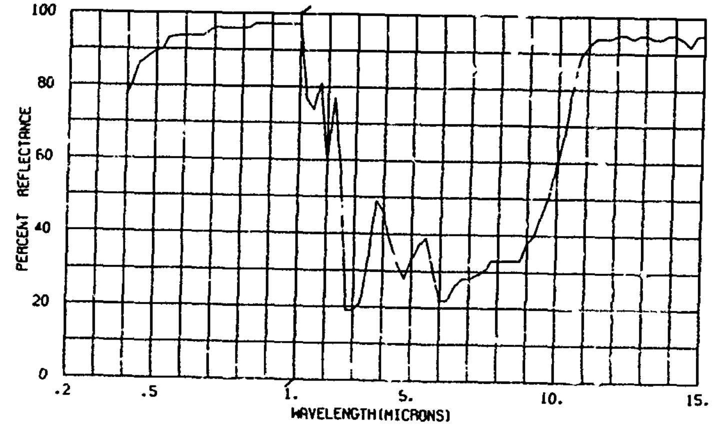
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-053 .0005 IN. SILVER PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

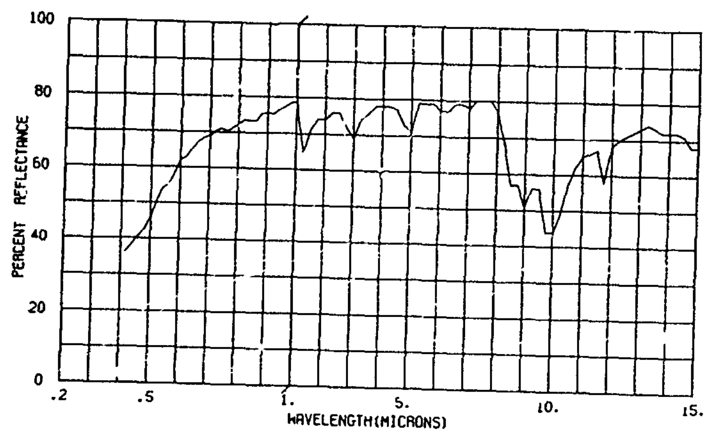
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-054 .0005 IN. SILVER PLATE ON .0005 IN. NICKEL PLATE ON 321 COR- 50 HOURS AT 800 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. IN EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

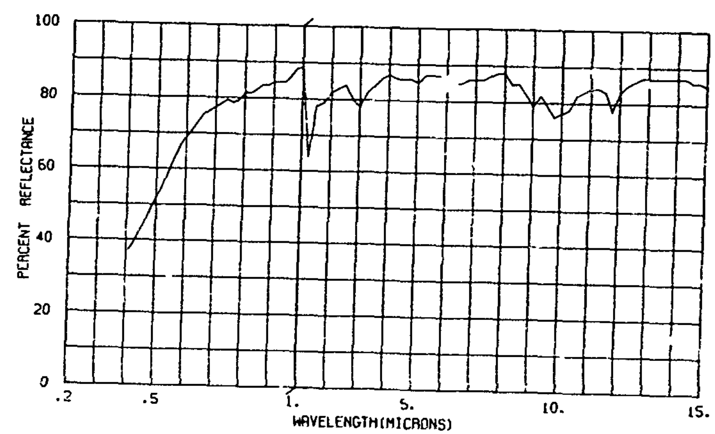
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-055 .0005 IN. SILVER PLATE ON .0005 IN. NICKEL PLATE ON 321 COR- 50 HOURS AT 1100 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. IN EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

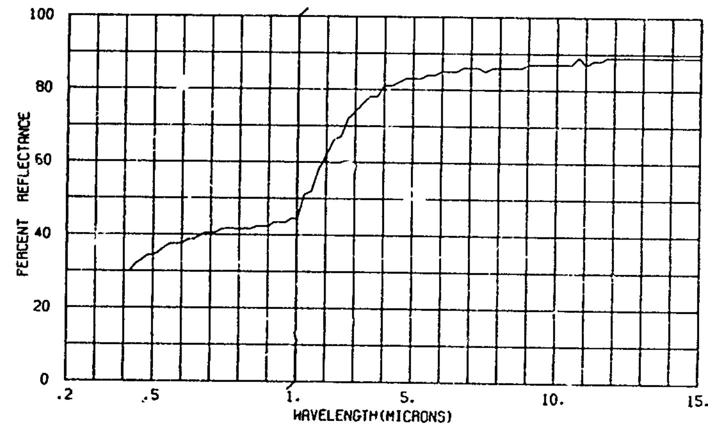
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-059 .0005 IN. PALLADIUM PLATE ON .0005 IN. SILVER PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

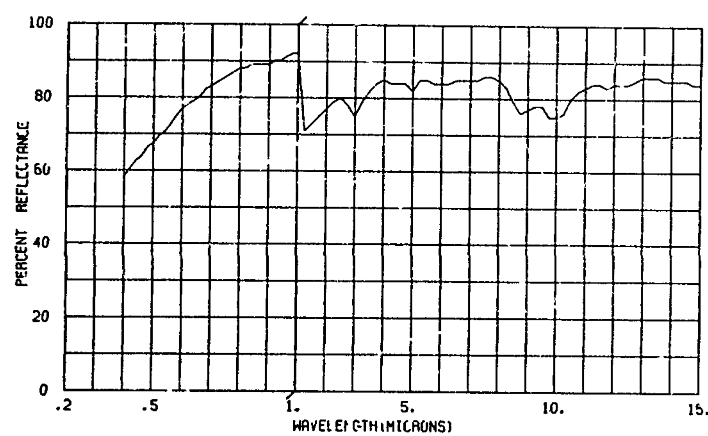
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-061 .0005 IN. PALADIUM PLATE ON .0005 IN. SILVER PLATE ON .0005

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

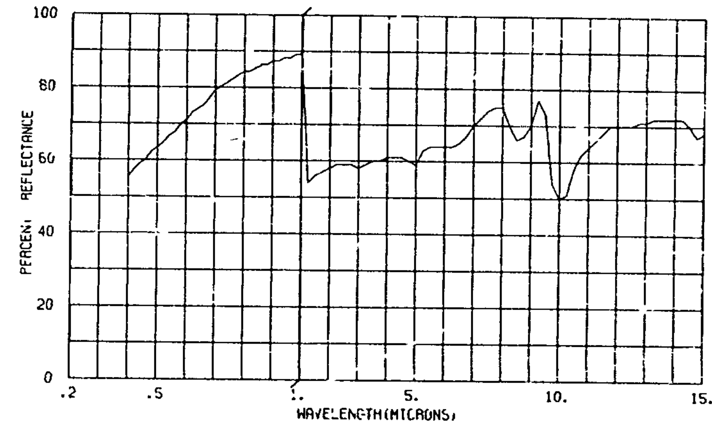
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-060 .0005 IN. PALADIUM PLATE ON .0005 IN. SILVER PLATE ON .0005

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

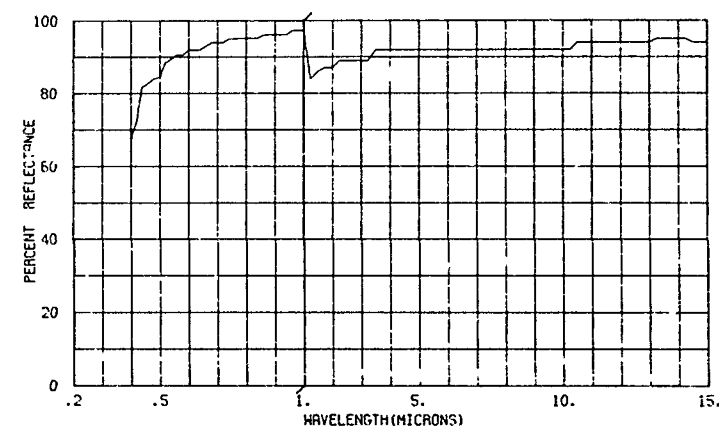
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-062 .0001 IN. GOLD PLATE ON .0005 IN. SILVER PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

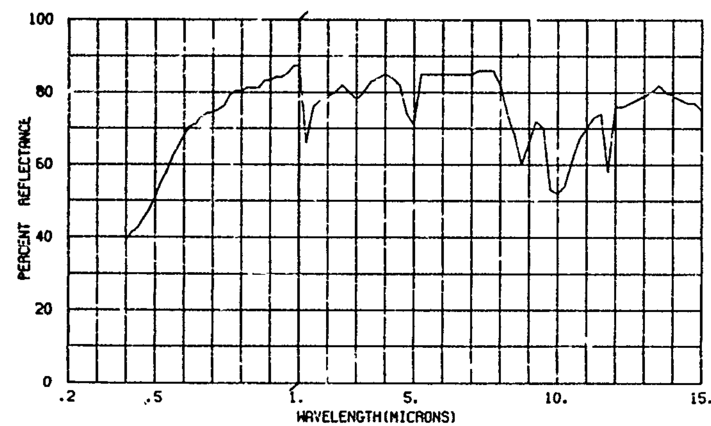
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-063 .0001 IN. GOLD PLATE ON .0005 IN. SILVER PLATE ON .0005 IN.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

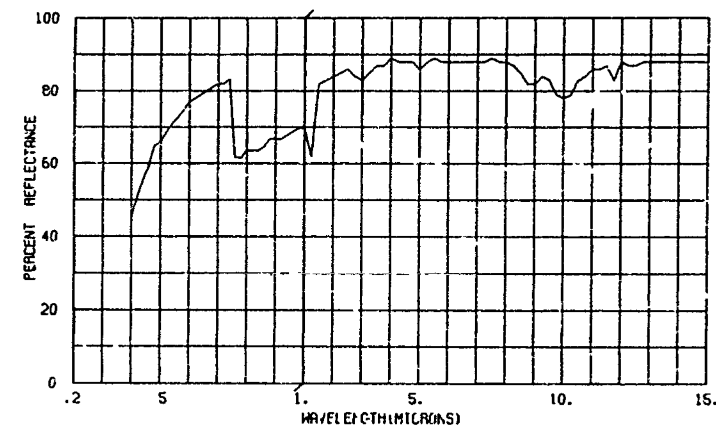
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-064 .0001 IN. GOLD PLATE ON .0005 IN. SILVER PLATE ON .0005 IN.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

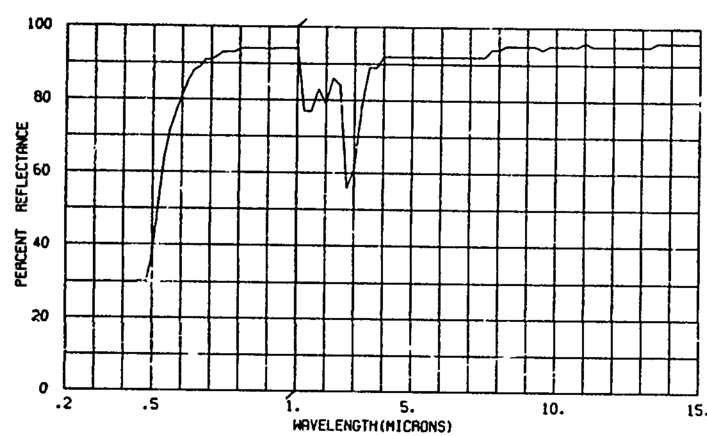
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-065 .0001 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321
CORROSION RESISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

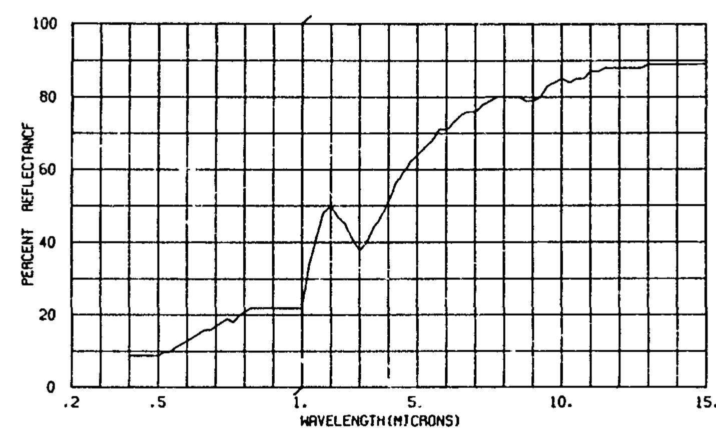
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-066 .0001 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321
CORROSION RESISTANT STEEL. 50 HOURS AT 800 DEGREES F. IN
COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-067 .0001 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 1100 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

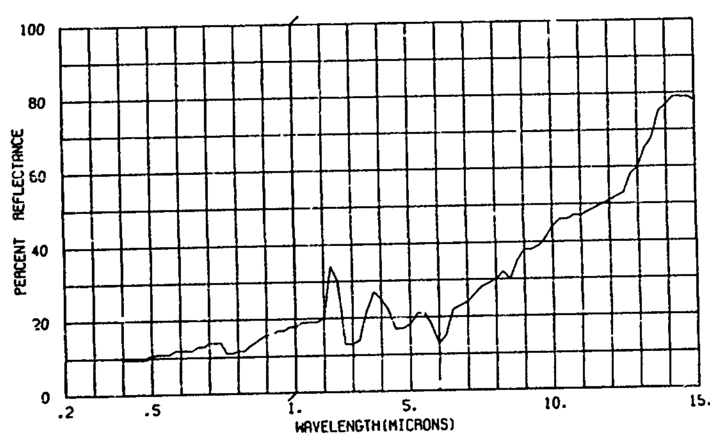
SUBJECT CODES CED DFA DFF DK ECB ECCA ECCB ECCC
AEL CD
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001

805289-069 .0002 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 1100 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES CED DFA DFF DK ECB ECCA ECCB ECCC
AEL CD
ECCD ECCE

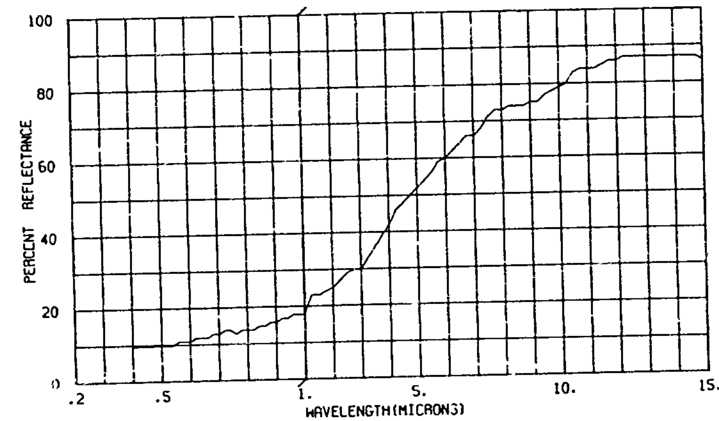
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-068 .0002 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 800 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES CED DFA DFF DK ECB ECCA ECCB ECCC
AEL CD
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-070 .0004 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 800 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES CED DFA DFF DK ECB ECCA ECCB FCCC
AEL CD
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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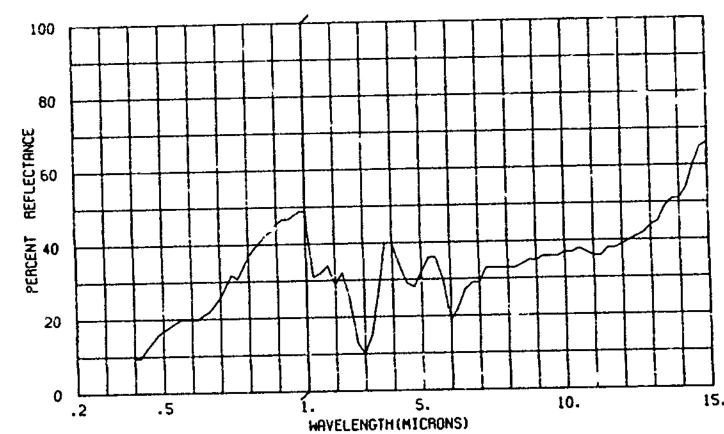

805289-071 .0004 IN. GOLD PLATE ON .0005 IN. NICKEL PLATE ON 321 CORROSION RESISTANT STEEL. 50 HOURS AT 1100 DEGREES F. IN COMBUSTION ATMOSPHERE (700 PCT. EXCESS OF AIR).

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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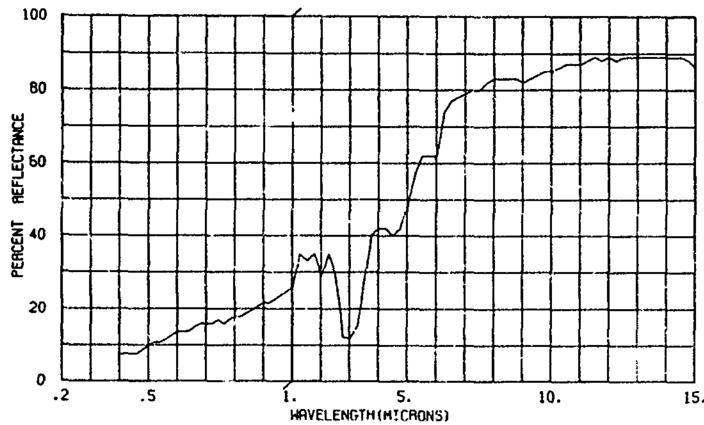

805289-072 ARMCO 17-7 PH STAINLESS STEEL. 300 HOURS AT 500 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
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DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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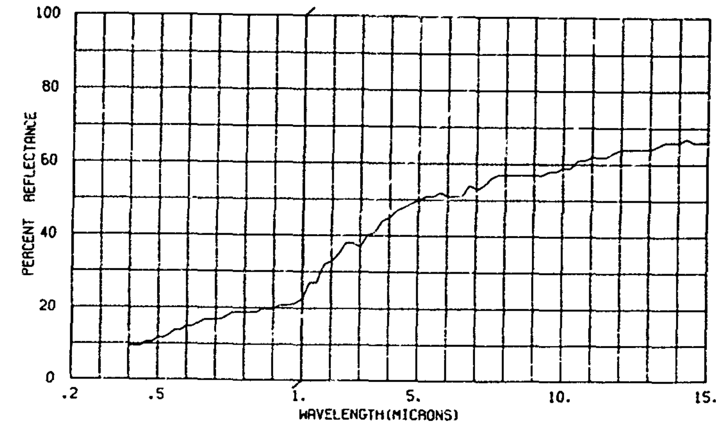

805289-073 ARMCO 17-7 PH STAINLESS STEEL. 100 HOURS AT 1000 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
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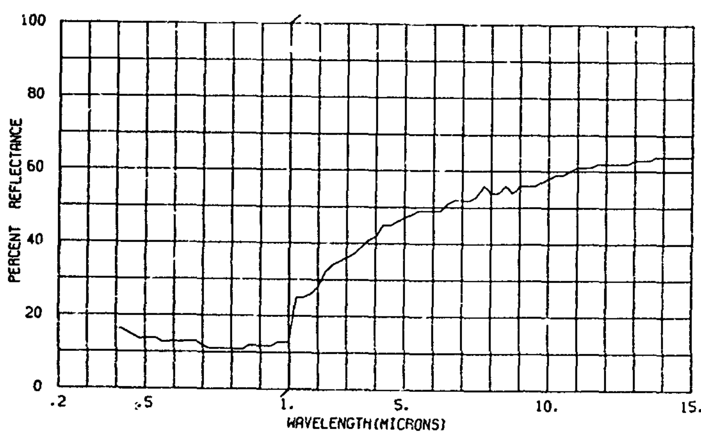

805289-074 17-4 PH STAINLESS STEEL, POLISHED. 1 HOUR AT 850 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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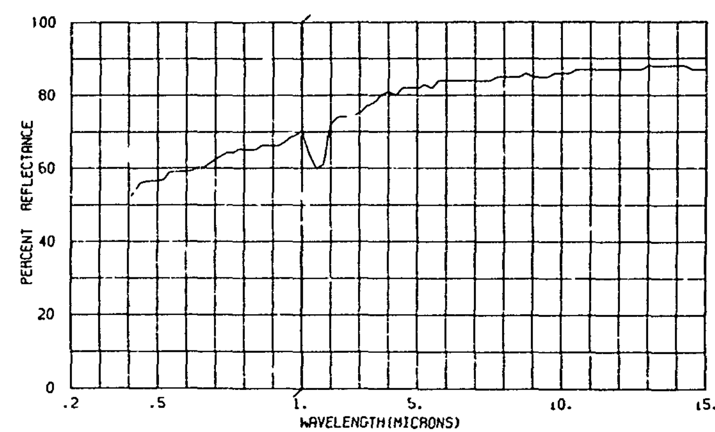

B05289-075   17-4 PH STAINLESS STEEL, POLISHED AND THEN LOCALLY OXIDIZED (2 PCT.) AT 1200 DEGREES F., 1 HOUR AT 850 DEGREES F. IN AIR.

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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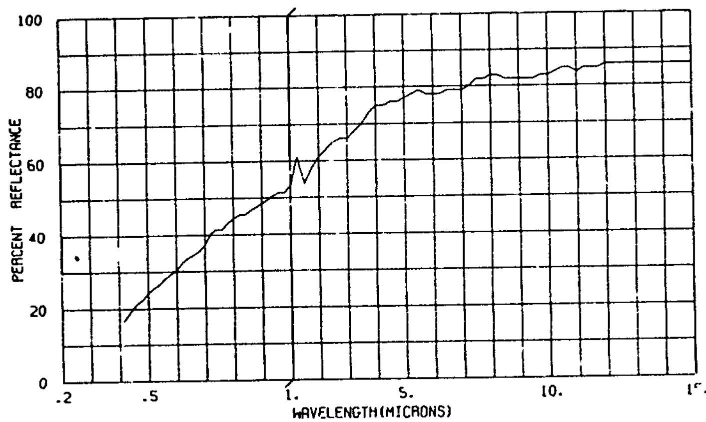

B05289-076   INCONEL X, 4 HOURS AT 1625 DEGREES F., AIR COOLED AND THEN 10 HOURS AT 1300 DEGREES F. IN AIR.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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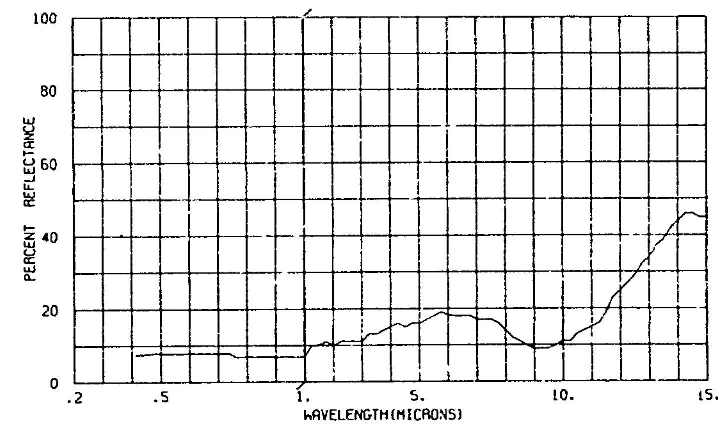

B05289-077   INCONEL X, 10 MINUTES AT 1925 DEGREES F., AIR COOLED AND THEN 10 HOURS AT 1300 DEGREES F.

SUBJECT CODES
AEL CD CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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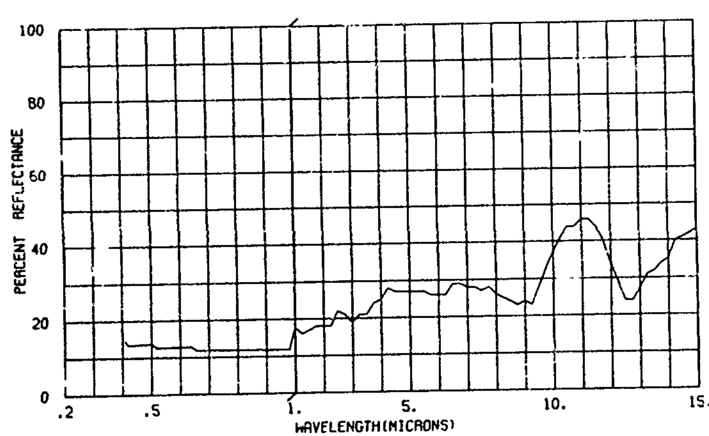

B05289-082   ANNODIZED TITANIUM ON STAINLESS STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEL CC CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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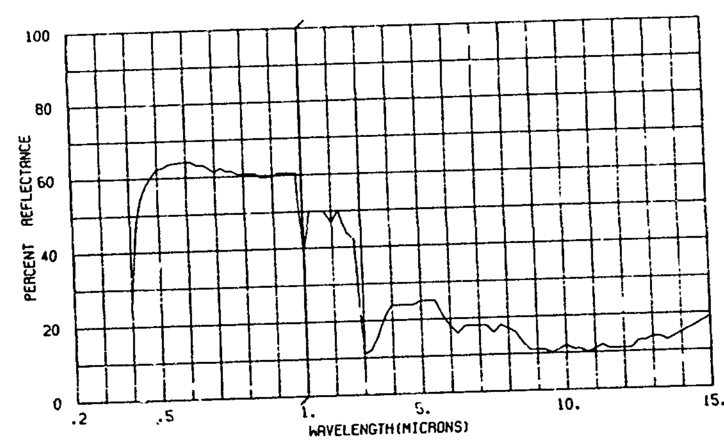

805289-003 .00001 IN. TO .00002 IN. RHODIUM FLASH ON .0065 NICKEL ON 321 CORROSION RESISTANT STEEL. 200 HOURS AT 500 DEGREES F. IN AIR.

SUBJECT CODES
AEL CO CED DFA DFF DK ECB ECCA ECCB ECCC
ECCD ECCE

PARAMETER INFORMATION
DATE= TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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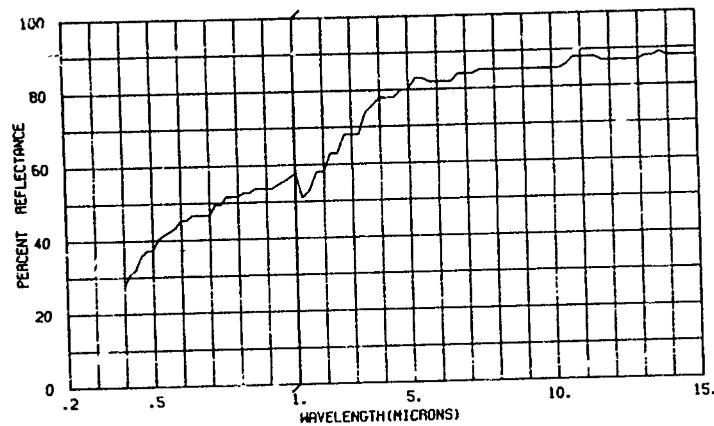

805370-001 COPPER, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
DATE= 56 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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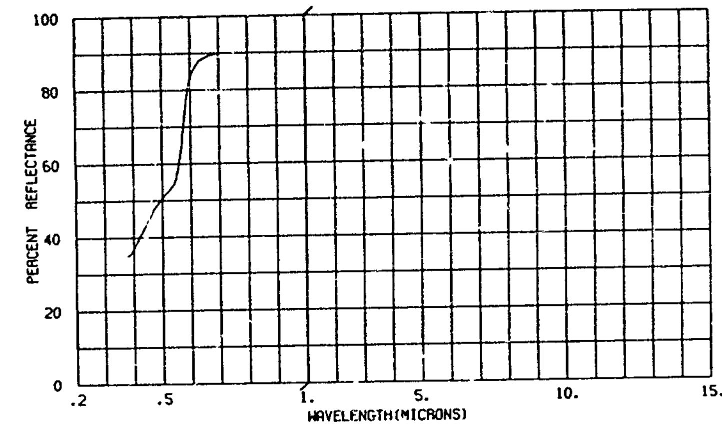

805370-002 COPPER, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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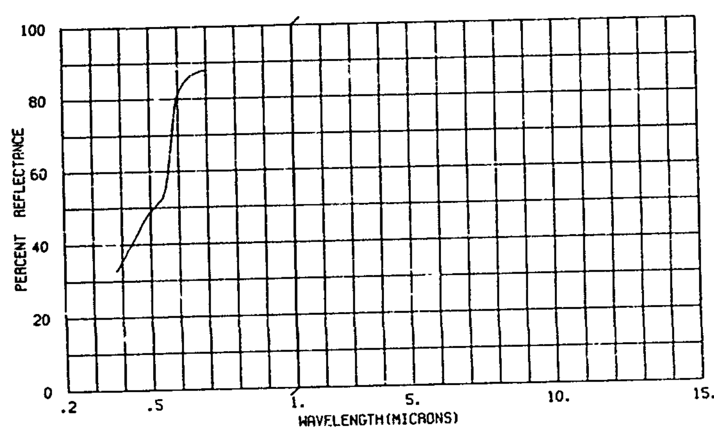

805370-003 COPPER, SMOOTH AND CLEAN.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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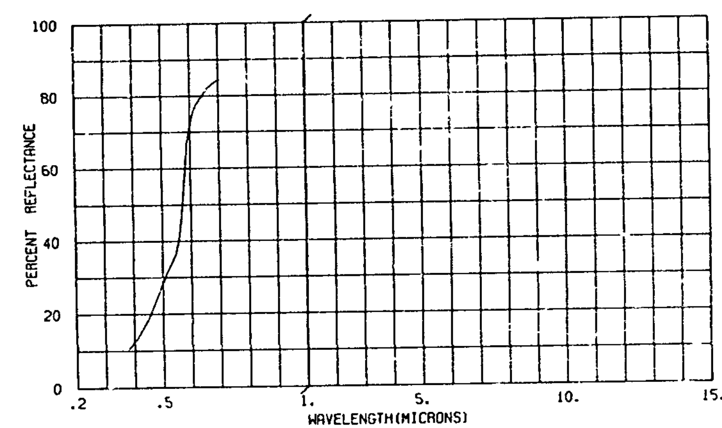

805370-004 COPPER, SMOOTH AND CLEAN.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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DAYS RE= IN= IAZ= CN= CAZ= IPR= E
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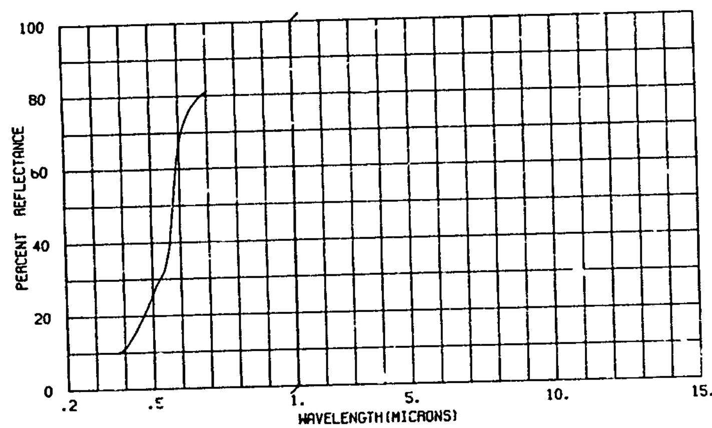

805370-005 COPPER.

SUBJECT CODES
AEL COB CEC DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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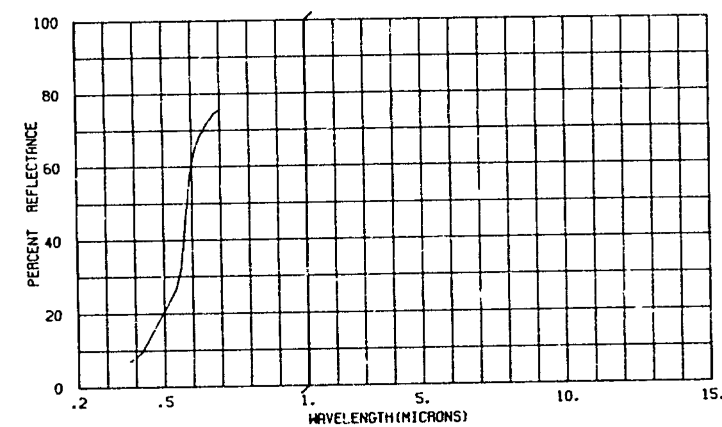

805370-006 COPPER.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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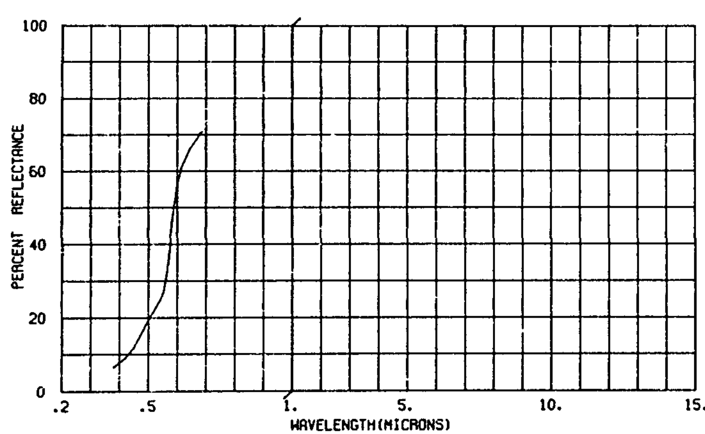

805370-007 TANTALUM, SMOOTH AND CLEAN.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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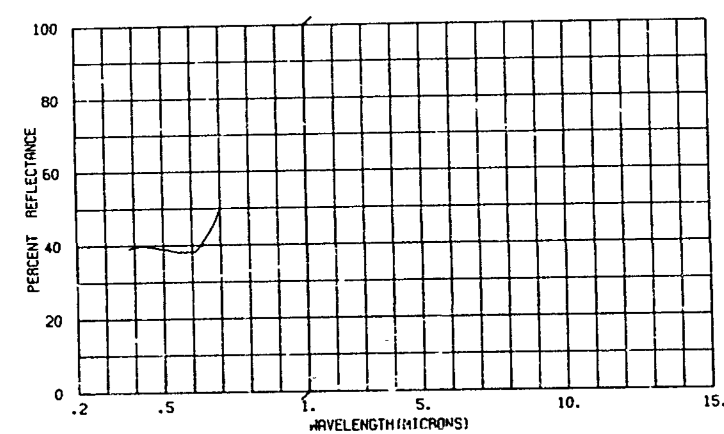

805370-008 TANTALUM, SMOOTH AND CLEAN.

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SUBJECT CODES
  AEL    CDB    CED    DFAA    DFCE    DK    ECAD    ECB

PARAMETER INFORMATION
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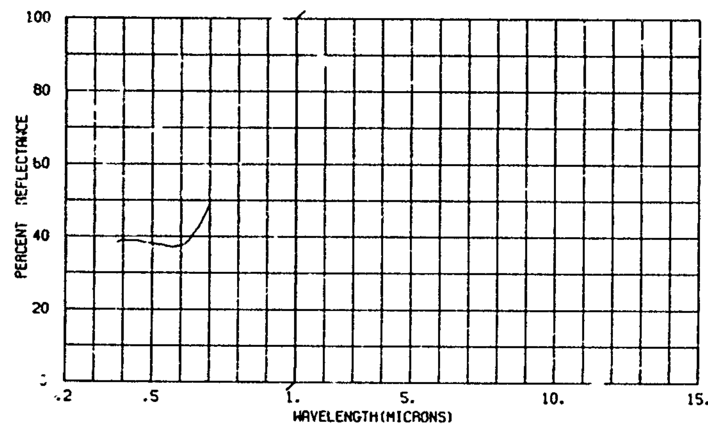

805370-009 TANTALUM.

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SUBJECT CODES
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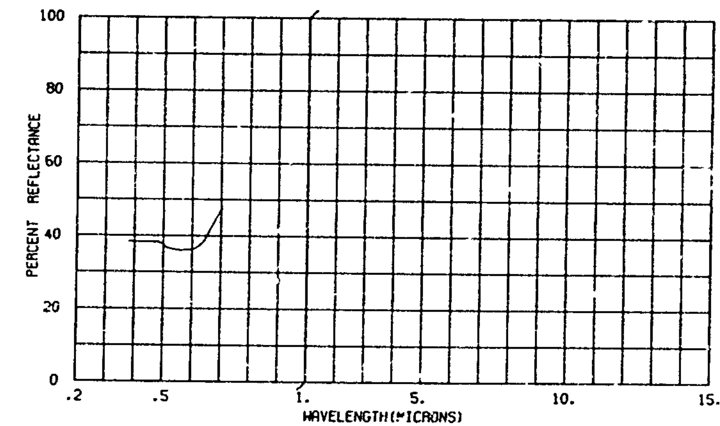

805370-010 TANTALUM.

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SUBJECT CODES
  AEL    CDB    CED    DFAA    DFCE    DK    ECAD    ECB

PARAMETER INFORMATION
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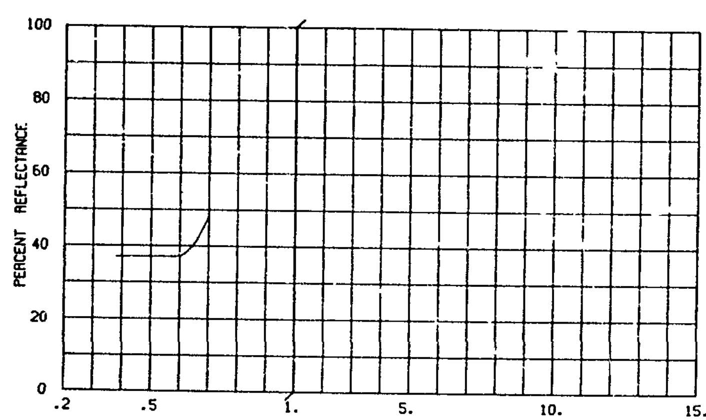

805370-011 TANTALUM, POLISHED.

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SUBJECT CODES
  AEL    CDB    CED    DFAA    DFCE    DK    ECAD    ECB

PARAMETER INFORMATION
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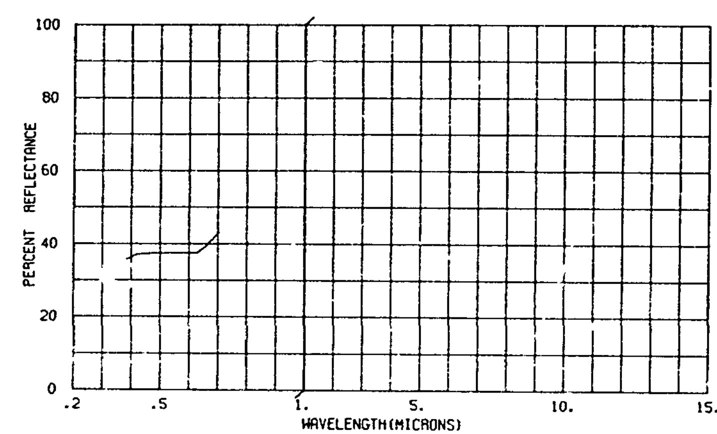

805370-012 TANTALUM, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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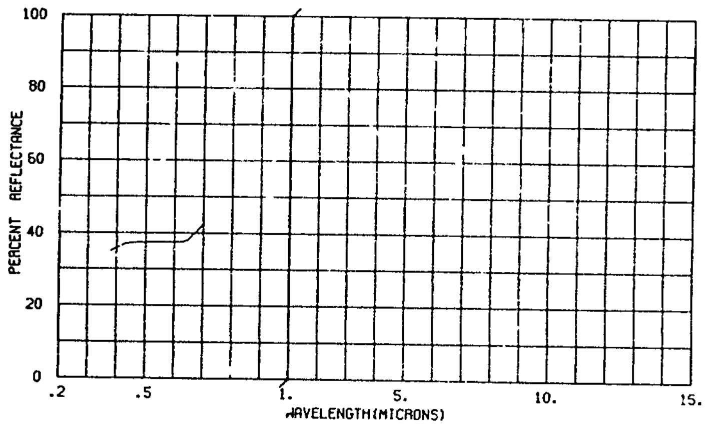

805370-013 MOLYBDENUM, POLISHED.

SUBJECT CODES
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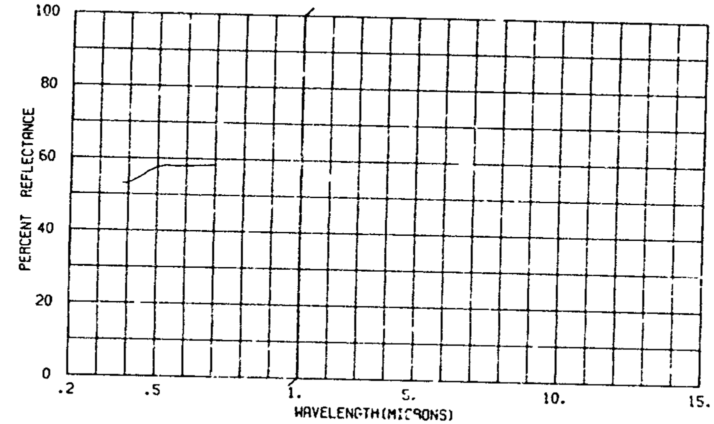

805370-014 MOLYBDENUM, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

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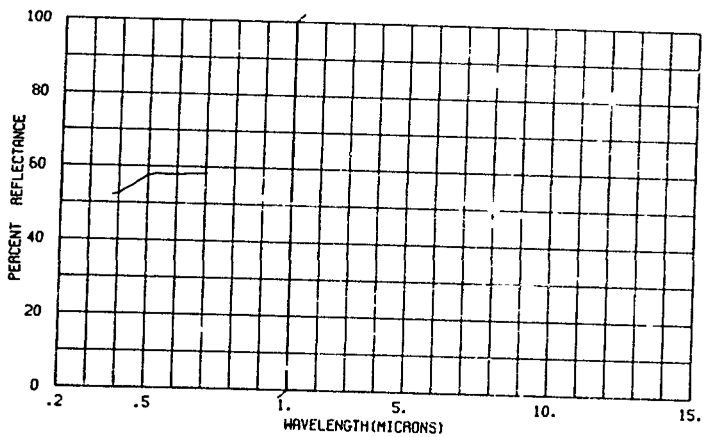

805370-015 MOLYBDENUM, SMOOTH AND CLEAN.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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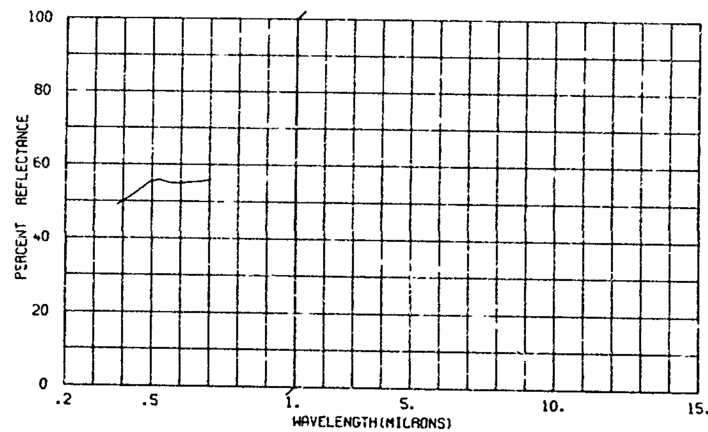

B05370-016 MOLYBDENUM, SMOOTH AND CLEAN.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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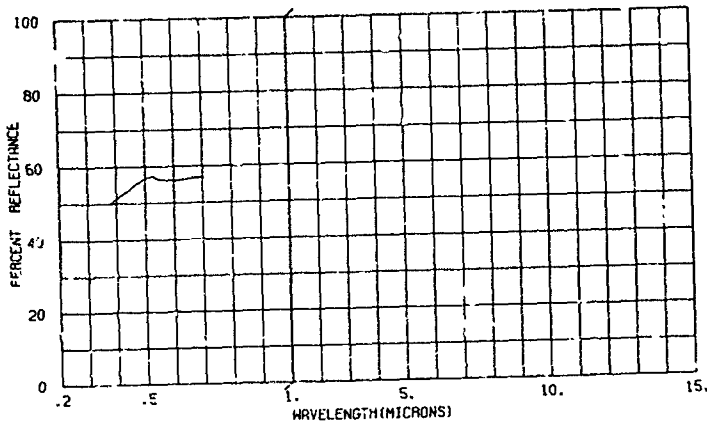

B05370-017 MOLYBDENUM.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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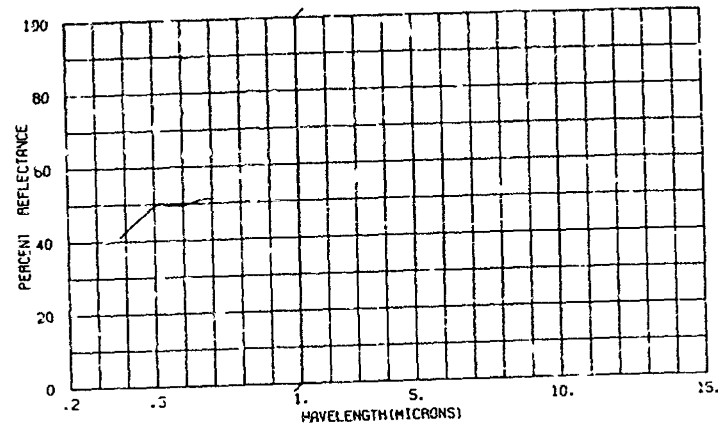

B05370-018 MOLYBDENUM.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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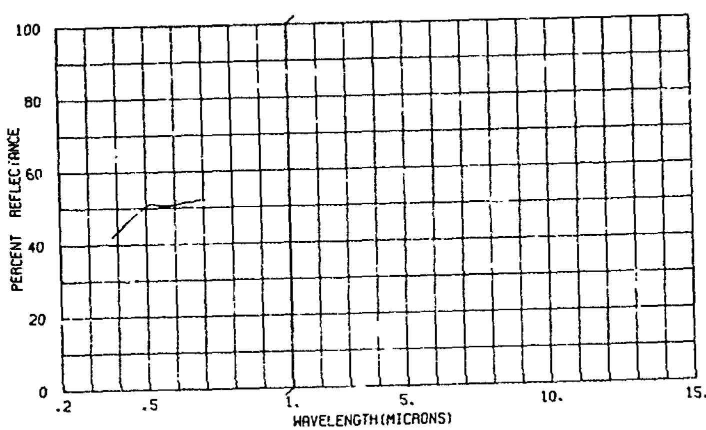

B05370-019 BRONZE, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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OBST=	ITEMP=	WIND SP=	WIND DI=	CLD=	VIS=
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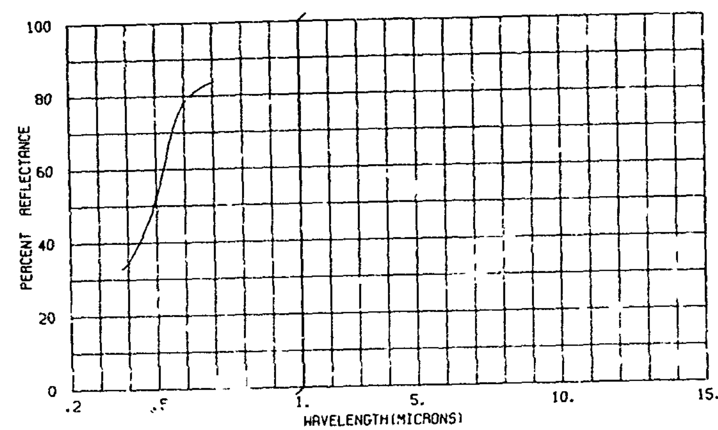

805370-020 BRONZE, POLISHED.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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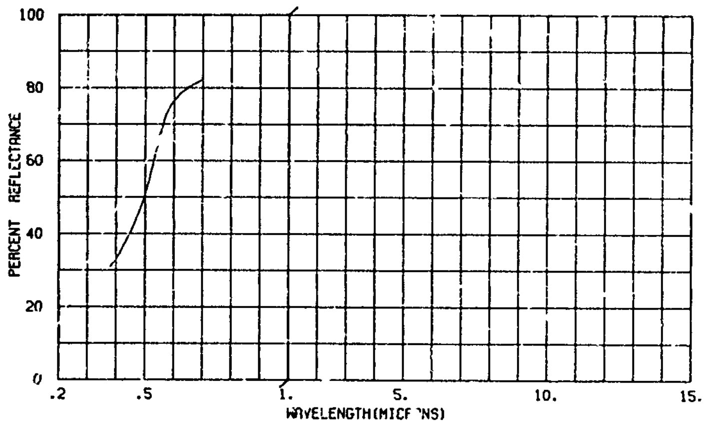

805370-021 BRONZE, SMOOTH AND CLEAN.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
DATE= 56 TIME= LAT= LONG= ALT= RANGE=
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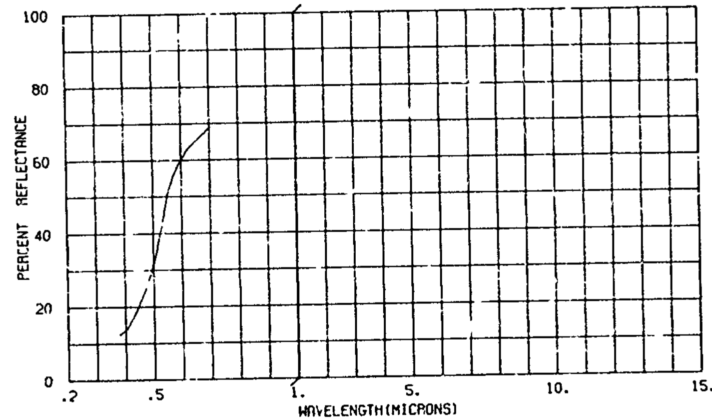

805370-022 BRONZE, SMOOTH AND CLEAN.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
DATE= 56 TIME= LAT= LONG= ALT= RANGE=
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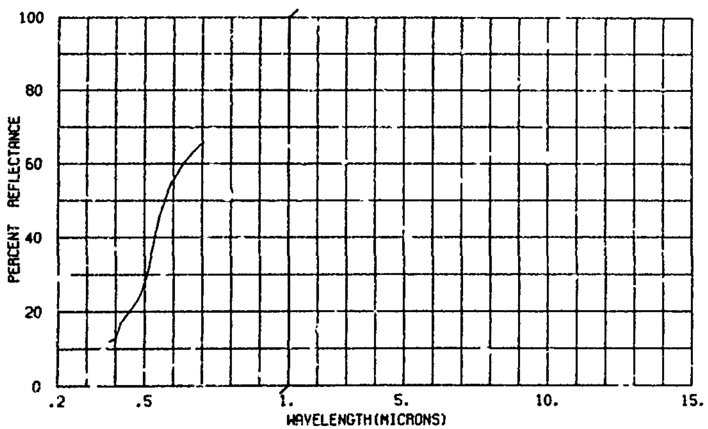

805370-023 BRONZE.

SUBJECT CODES
AEL COB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
DATE= 56 TIME= LAT= LONG= ALT= RANGE=
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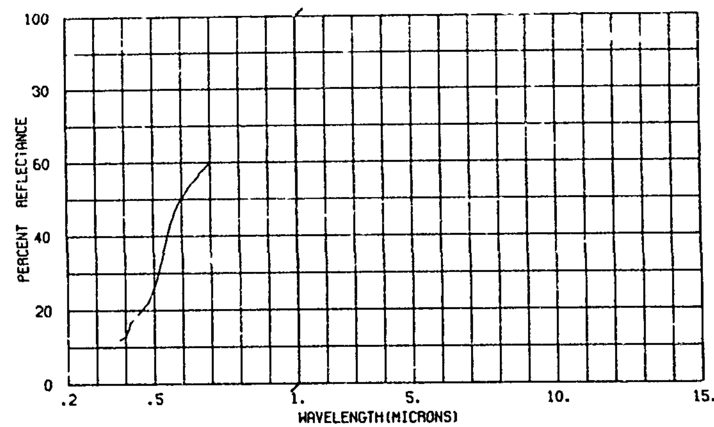

805370-024 BRONZE.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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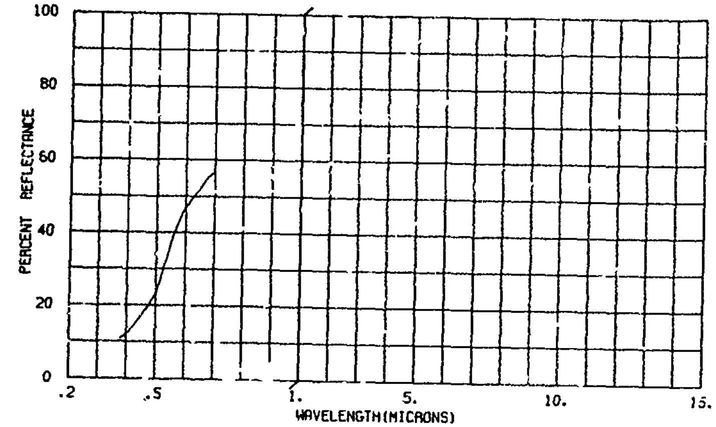

805370-025 NICKEL, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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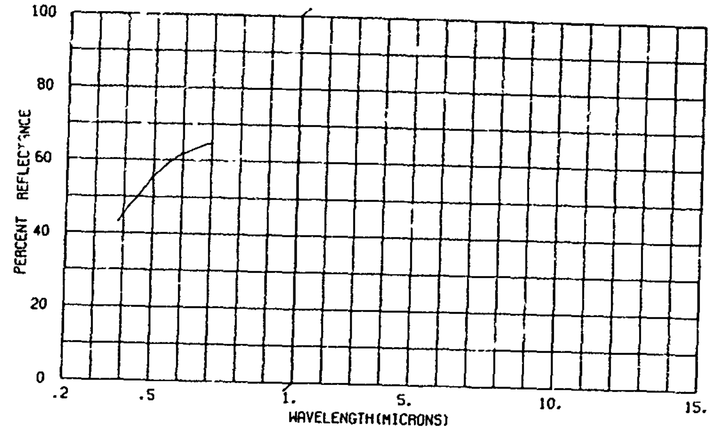

805370-026 NICKEL, POLISHED.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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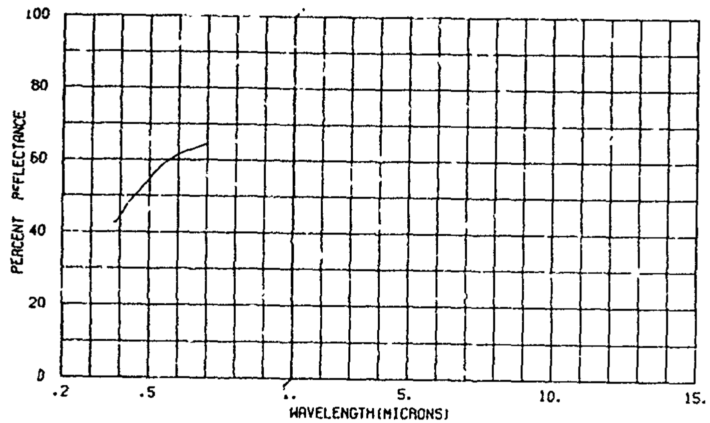

805370-027 NICKEL, SMOOTH AND CLEAN.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION
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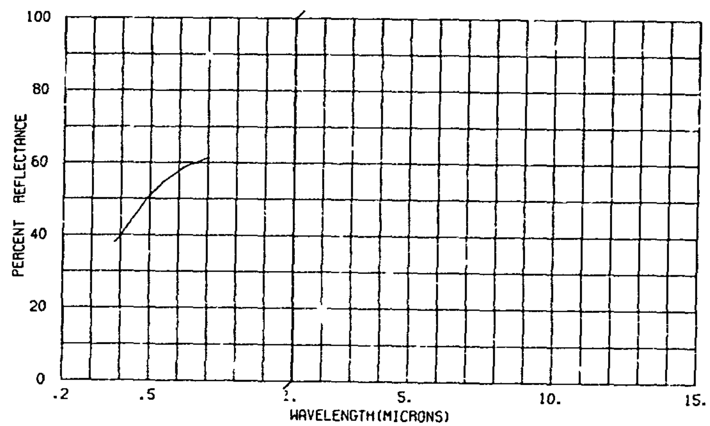

805370-028 NICKEL, SMOOTH AND CLEAN.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
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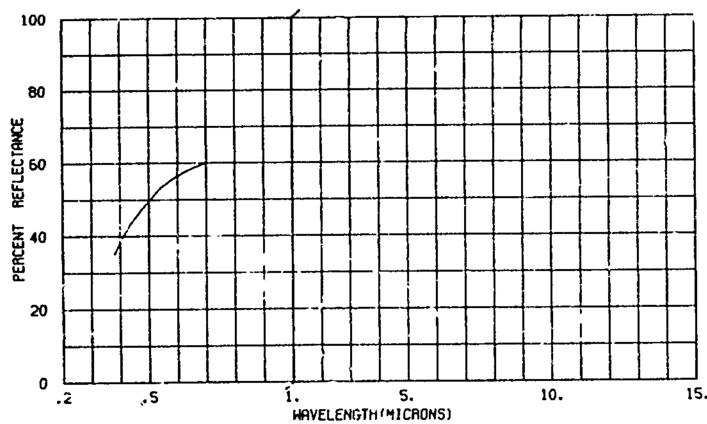

805370-029 NICKEL.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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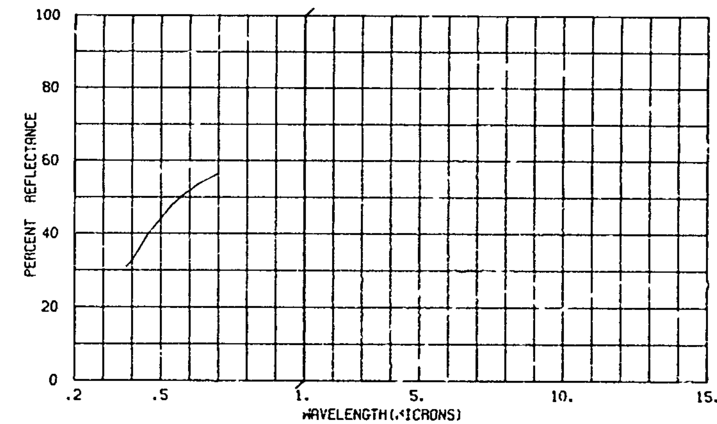

805370-030 NICKEL.

SUBJECT CODES
AEL CDB CED DFAA DFCE DK ECAD ECB

PARAMETER INFORMATION

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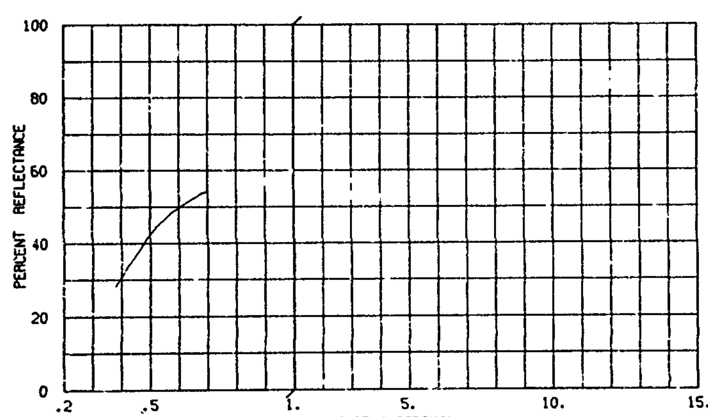

805289-044 RINSHED-MASON BLACK HEAT RESISTANT, AIR DRY ENAMEL (H12144) PAINTED ON TYPE 321 CORROSION RESISTANT STEEL (.0006 IN. THICKNESS OF ENAMEL). 300 HOURS AT 497 DEGREES F. IN AIR.

SUBJECT CODES
AEM ECBBL AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
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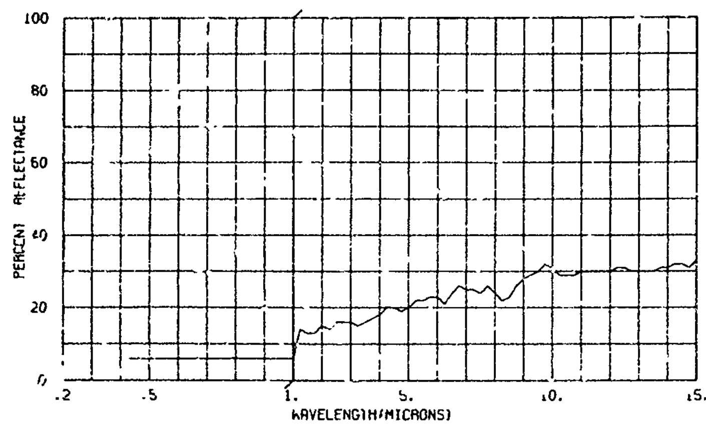

805289-045 RINSHED-MASON BLACK HEAT RESISTANT, AIR DRY ENAMEL (H12144) PAINTED ON TYPE 321 CORROSION RESISTANT STEEL (.0006 IN. THICKNESS OF ENAMEL). 307 HOURS AT 690 DEGREES F. IN AIR.

SUBJECT CODES
AEM ECBBL AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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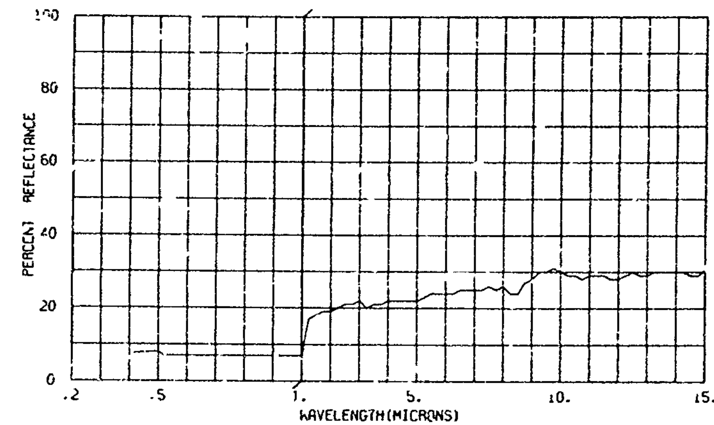

805289-046 RINSHED-MASON BLACK HEAT RESISTANT, AIR DRY ENAMEL (H12144) PAINTED ON TYPE 321 CORROSION RESISTANT STEEL (.0006 IN. THICKNESS OF ENAMEL). 100 HOURS AT 705 DEGREES F. IN AIR.

SUBJECT CODES
AEM ECBBL AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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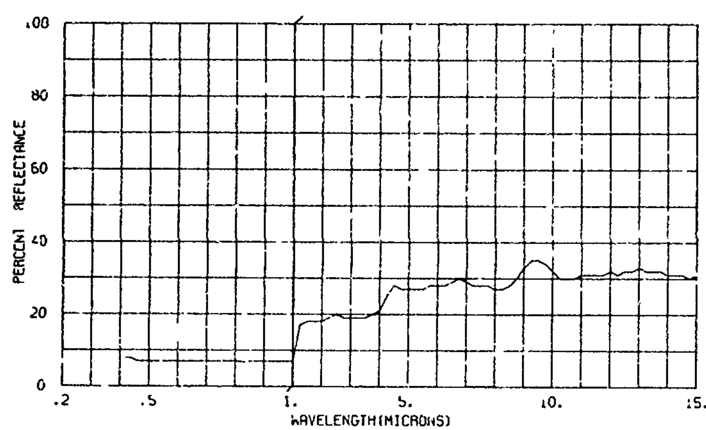

805289-047 RINSHED-MASON BLACK HEAT RESISTANT, AIR DRY ENAMEL (H12144) PAINTED ON TYPE 321 CORROSION RESISTANT STEEL (.0006 IN. THICKNESS OF ENAMEL). NO THERMAL TREATMENT.

SUBJECT CODES
AEM ECBBL AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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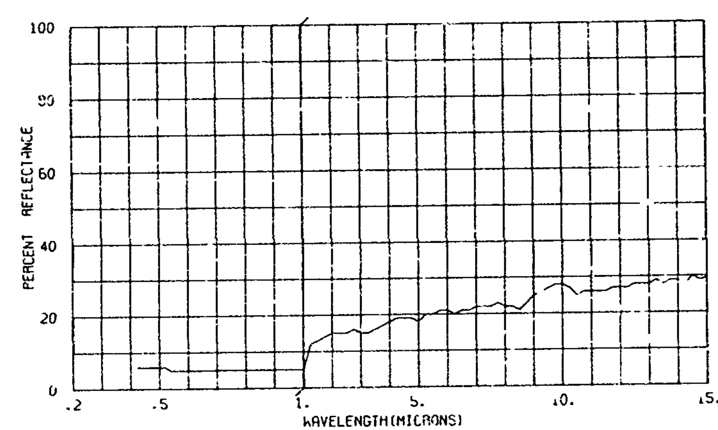
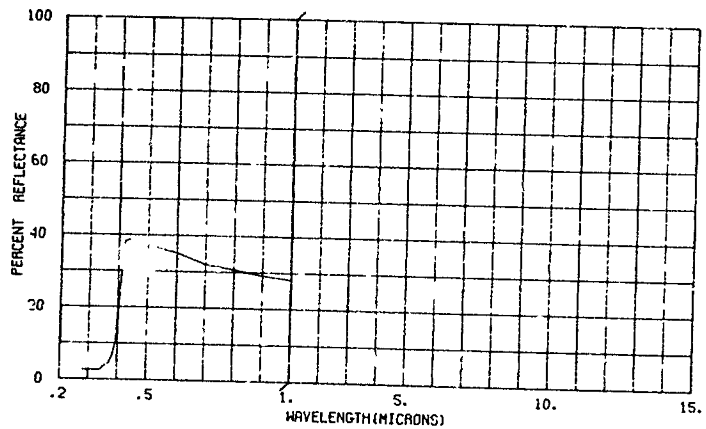


B20000-365 GRAY PAINT, MIXTURE OF 3M WHITE (60%) AND 3M BLACK (40%) VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECBBK AEA CDA CED DFAA DFCE DK ECAC ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-366 GRAY PAINT, MIXTURE OF 3M WHITE (50%) AND 3M BLACK (50%) VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECBBK ƐCA CDA CED DFAA DFCE DK ECAC ECAD
ECB ECCA

PARAMETER INFORMATIC
DATE= 23 08 66 TIM LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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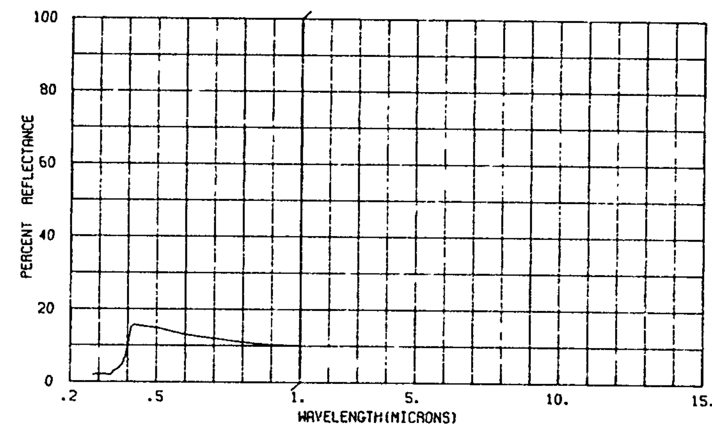

B20000-367 PAINT, 3M BLACK VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECBBL AEA CDA CED DFAA DFCE DK ECAC ECAD
ECC ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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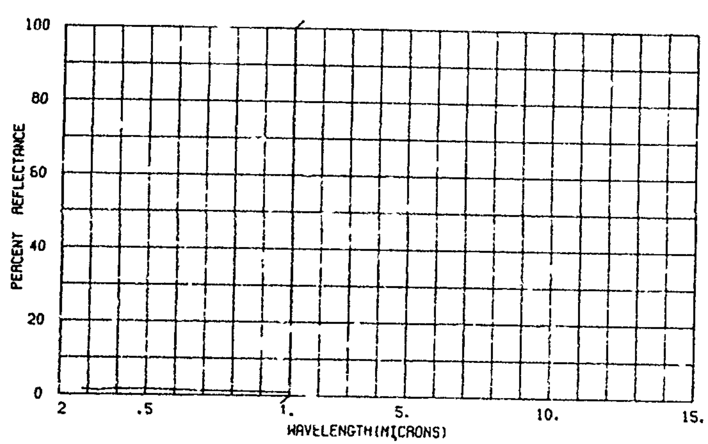

B20000-369 GRAY PAINT, MIXTURE OF 3M WHITE (60%) AND 3M BLACK (40%) VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECBBK AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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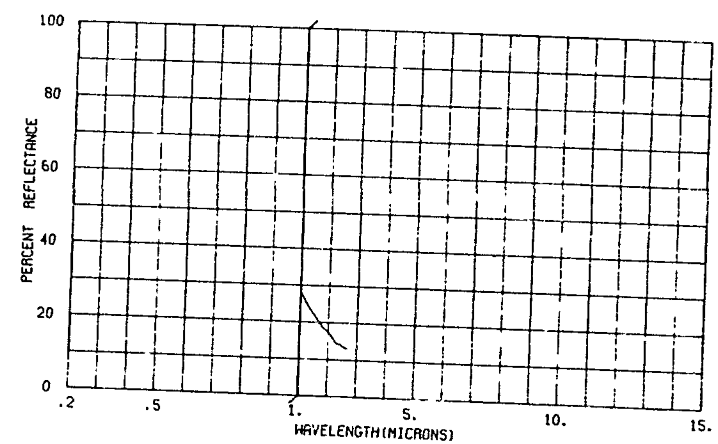
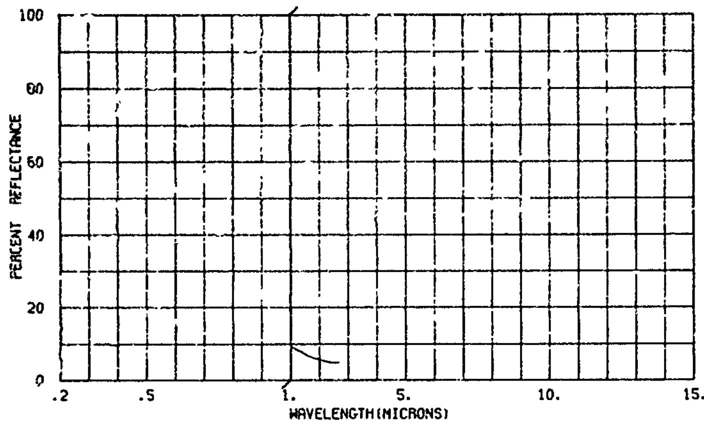


B20000-370 GRAY PAINT, MIXTURE OF 3M WHITE (50%) AND 3M BLACK (50%) VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECGBW AEL CDA CED DFAL DFCE DK ECCA ECCB

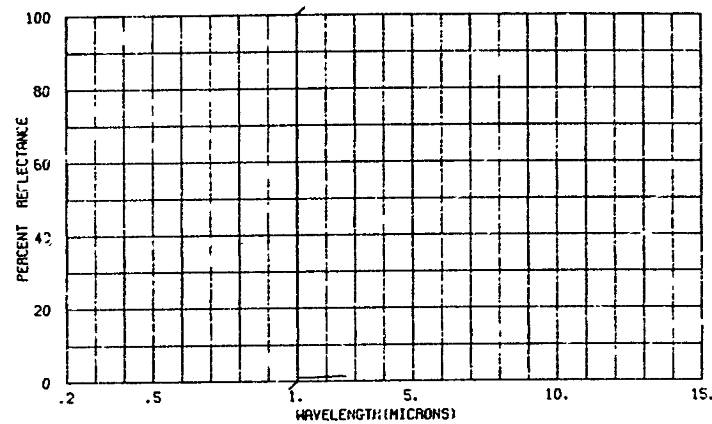
PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-371 PAINT, 3M BLACK VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEM ECBBL AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-051 WHITE PAINT (PV-100) ON 17-7 PH STAINLESS STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEMA AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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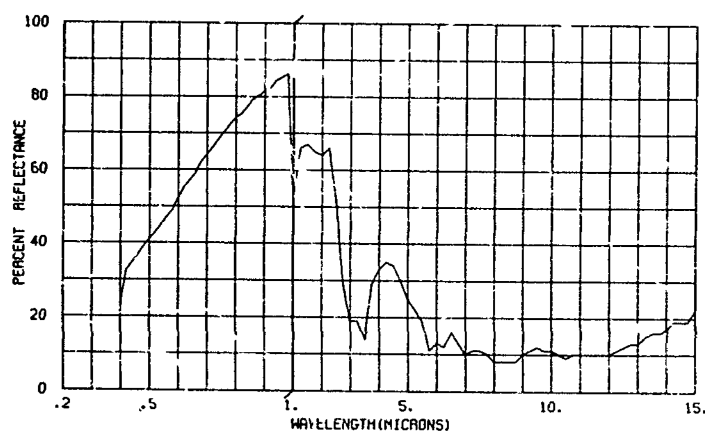
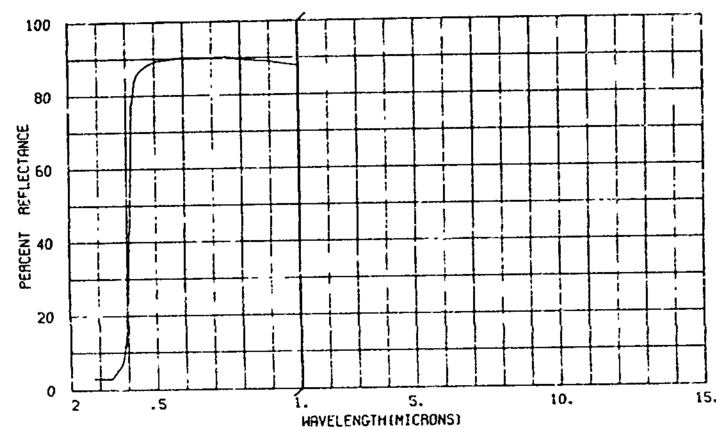


B20000-364 PAINT, 3M WHITE VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEMA AEA CDA CED DFAA DFCE DK ECAD ECD ECCA
ECAC

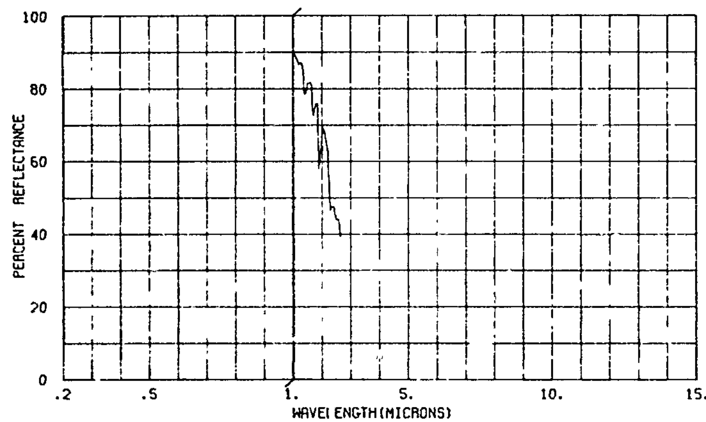
PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-368 PAINT, 3M WHITE VELVET ON ALUMINUM SUBSTRATE.

SUBJECT CODES
AEMA AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 08 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-529 WHITE LUSTRELESS STYRENATED ALKYD ENAMEL, TT-E-516, U.S. ARMY COATING AND CHEMICAL LAB), ON SST ALUMINUM, CLEANED, .6025 IN. THICK.

SUBJECT CODES
AEMA AEA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= C03. IAZ= 0 CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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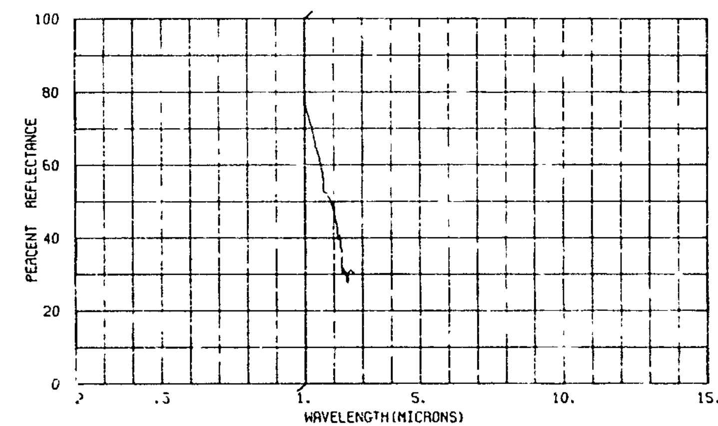

820000-530 WHITE LUSTRELESS STYRENATED ALKYD ENAMEL, TT-E-516, U.S. ARMY COATING AND CHEMICAL LAB., ON SST ALUMINUM, CLEANED, .6025 IN. THICK.

SUBJECT CODES
AEMA AEA CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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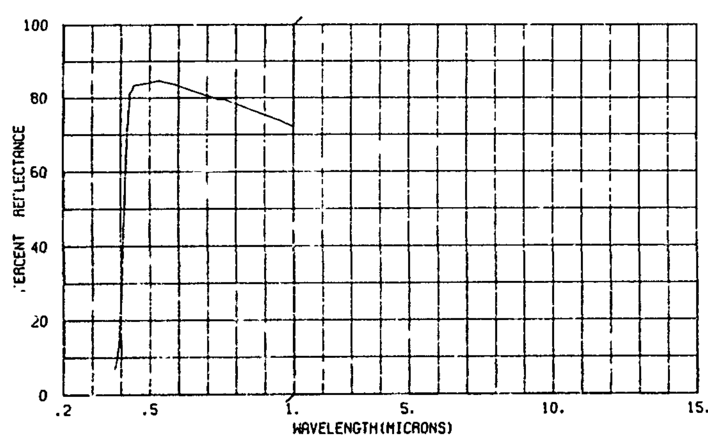

820000-515 OLIVE DRAB GLOSS ENAMEL, ON TANK FOOT-SUPPORT, UPPER SURFACE.

SUBJECT CODES
AEMB CSBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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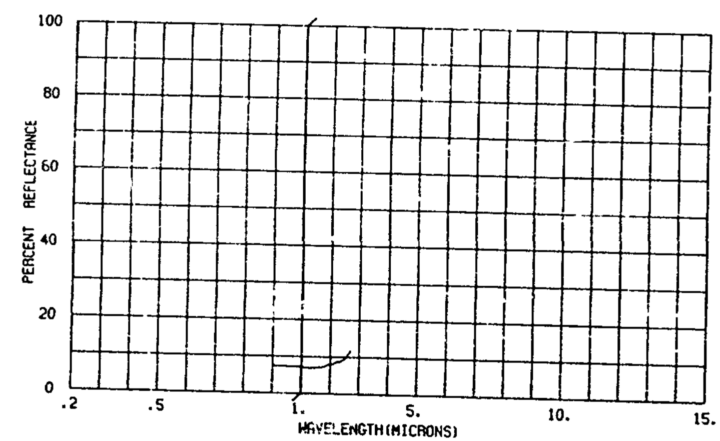

820000-516 OLIVE DRAB GLOSS ENAMEL, ON TANK FOOT-SUPPORT, LOWER SURFACE.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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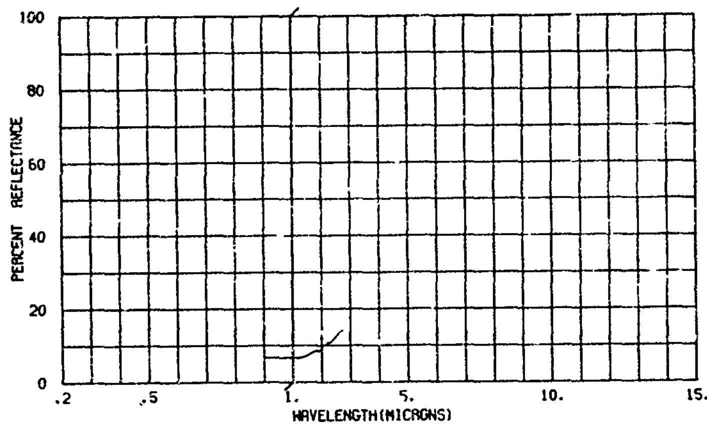
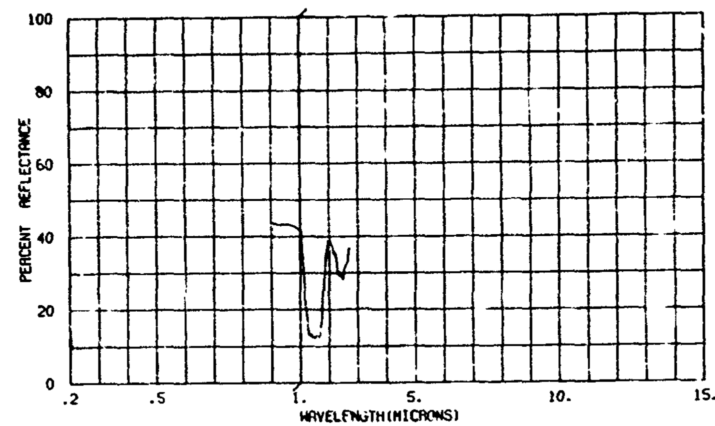


820000-521 SEMI-GLOSS SOLAR-REFLECTING ENAMEL, MIL-E-46061, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-522 SEMI-GLOSS SOLAR-REFLECTING ENAMEL, MIL-E-46061, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 19 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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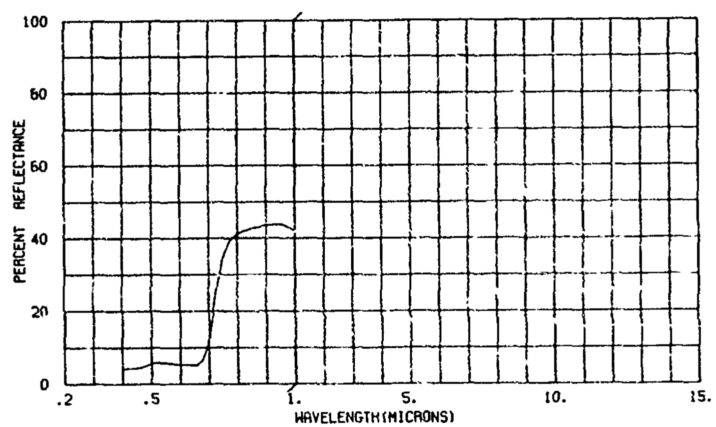

820000-523 OLIVE DRAB, QUICK DRY, SEMI-GLOSS VEHICLE PAINT (WIDELY USED IN COMBAT AREAS), TTE-529A, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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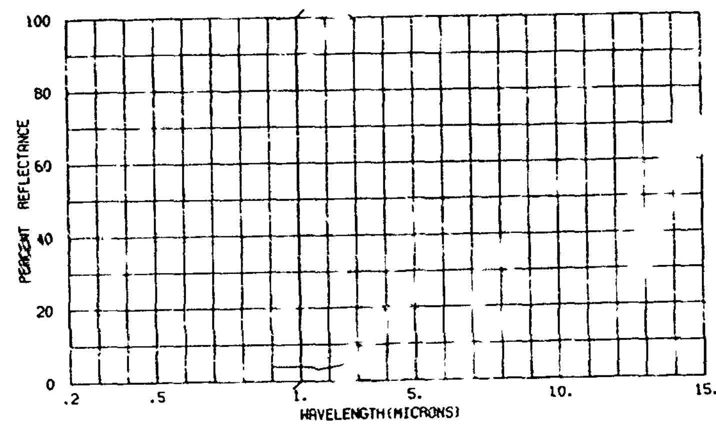

820000-524 OLIVE DRAB, QUICK DRY, SEMI-GLOSS PAINT (COMMON USE ON VEHICLES), TTE-529A, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 19 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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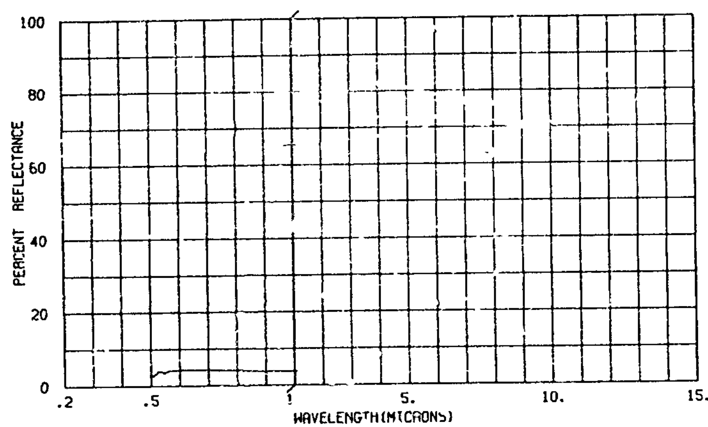

820000-525 DIFFUSE NIGHT VISION DEFEATING PAINT, 3-M 101-64, TYPE 100-SPECIAL FORMULATION, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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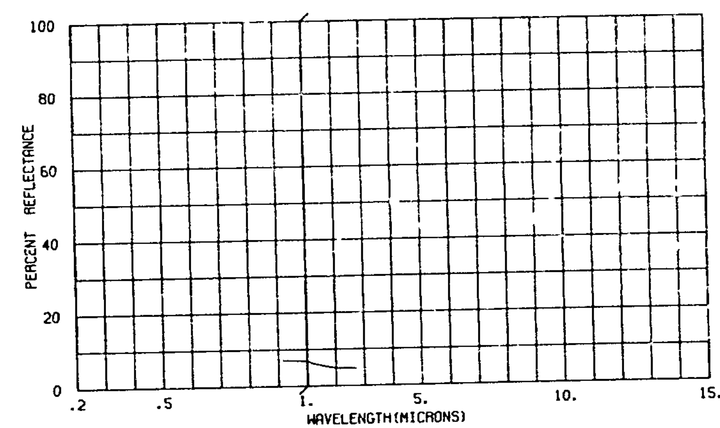

820000-526 PAINT, 3-M 101-64 SPECIAL FORMULATION, U.S. ARMY O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 19 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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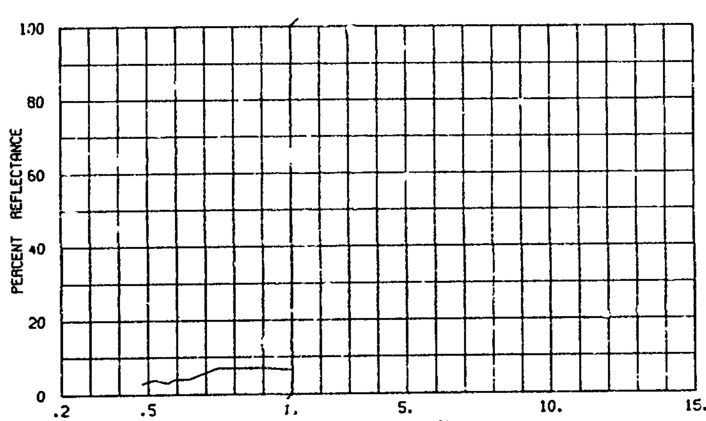

820000-527 NIGHT-VISIBILITY DEFEATING ENAMEL, CCL-589-881, U.S. ARMY COATING AND CHEMICAL LAB.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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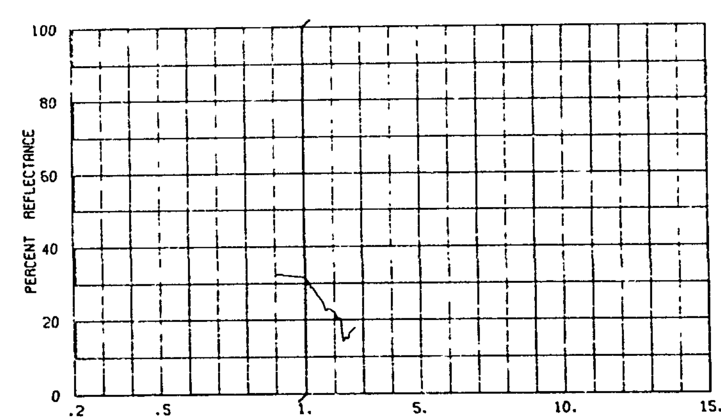
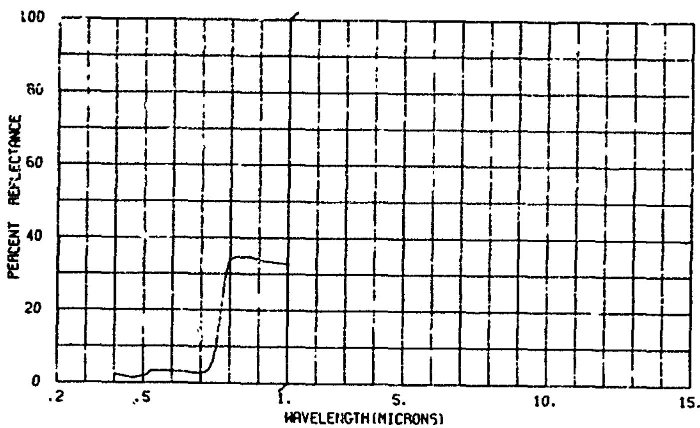


820000-529 NIGHT-VISIBILITY DEFEATING ENAMEL, CCL-509-881, U.S. ARMY COATING AND CHEMICAL LAB.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECB FCCA

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-531 OLIVE DRAB, LUSTRELESS SOLAR-HEAT REFLECTING ENAMEL (NO UNDER COATING AS IS FOUND IN FIELD), MIL-E-46096 (MR), CCL-561-1011, U.S. ARMY CTG. AND CHEM. LAB., ON ALUMINUM.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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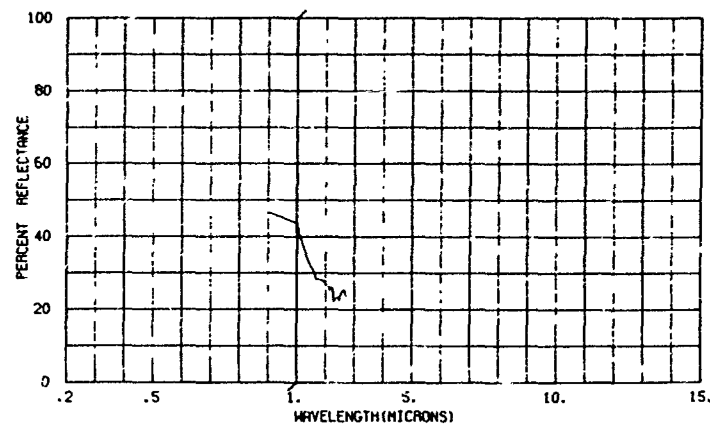
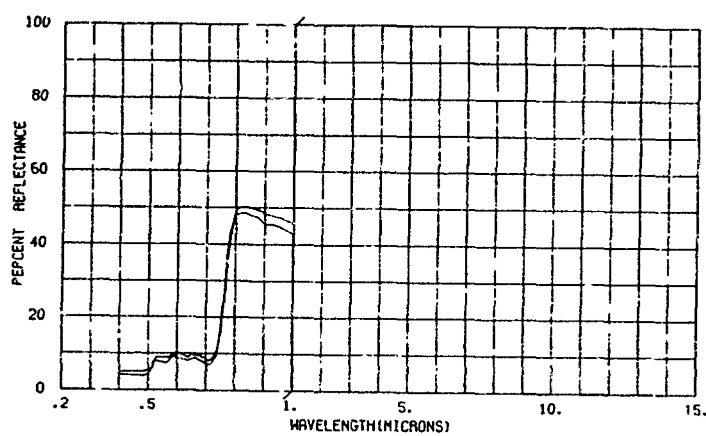


820000-532 OLIVE DRAB, LUSTRELESS SOLAR-HEAT REFLECTING ENAMEL (NO UNDER COATING AS IS FOUND IN FIELD), MIL-E-46096 (MR), CCL-561-1011, U.S. ARMY CTG. AND CHEM. LAB., ON ALUMINUM.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= F
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001
ALL DATA HAVE BEEN PROCESSED



820000-533 OLIVE DRAB, VERY DARK, NIGHT-VISIBILITY DEFEATING ENAMEL, CCL-614-772, U.S. ARMY CTG. AND CHEM. LAB., ON SST ALUMINUM, CLEANED, .0625 IN. THICK.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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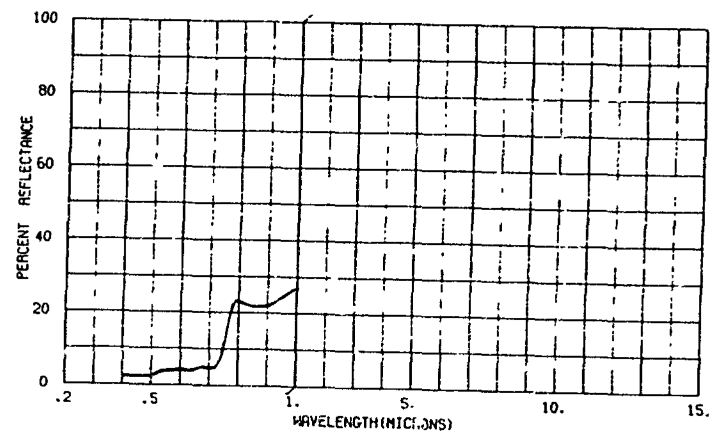

820000-534 OLIVE DRAB, VERY DARK, NIGHT-VISIBILITY DEFEATING ENAMEL, CCL-614-772, U.S. ARMY CTG. AND CHEM. LAB., ON SST ALUMINUM, CLEANED, .0625 IN. THICK.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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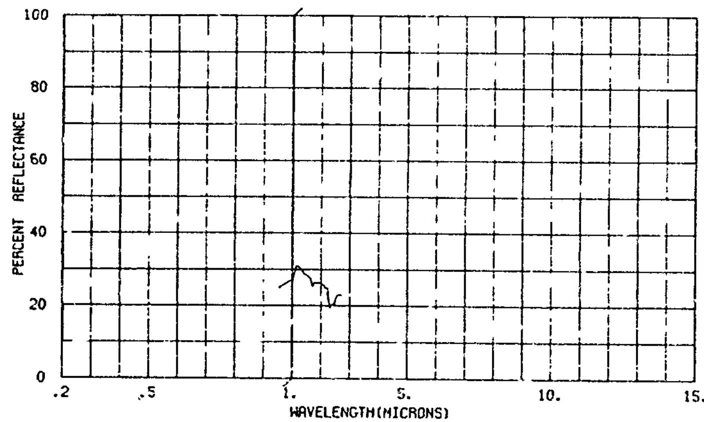

820000-570 ARMY AIRCRAFT COWLING, O.D., OLD WEATHERED, ON AIRCRAFT ALUMINUM.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 07 02 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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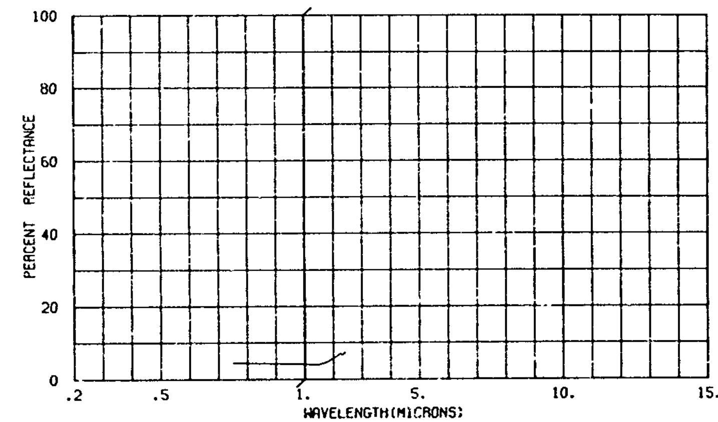
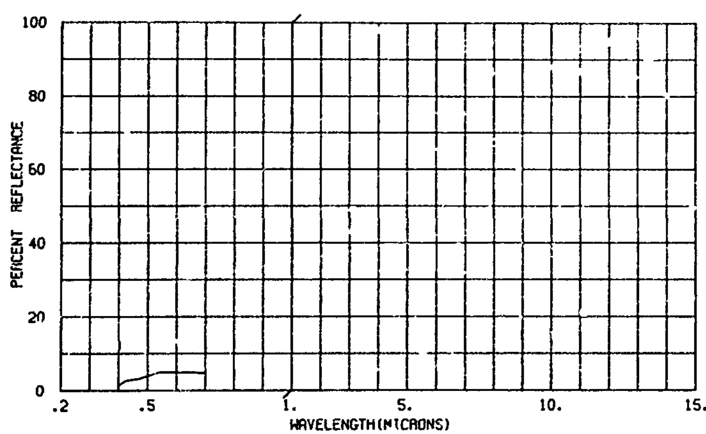


820000-571 ARMY AIRCRAFT COWLING, O.D., OLD WEATHERED, ON AIRCRAFT ALUMINUM.

SUBJECT CODES
AEMB ECBBI AEA CDA CED DFAA DFCE DK ECB

PARAMETER INFORMATION
DATE= 7 02 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-382 ANODIZED ALUMINUM, 2 COATS ZINC CHROMATE, WET DECKED, 1 COAT 529A O.D.

SUBJECT CODES
AEMB ECBBI AEL CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 24 11 67 TIME= LAT= 42.5 N LONG= 83.0 W ALT= RANGE=
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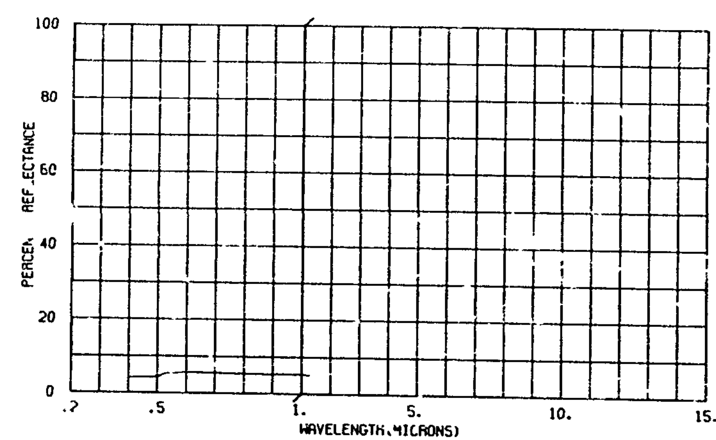
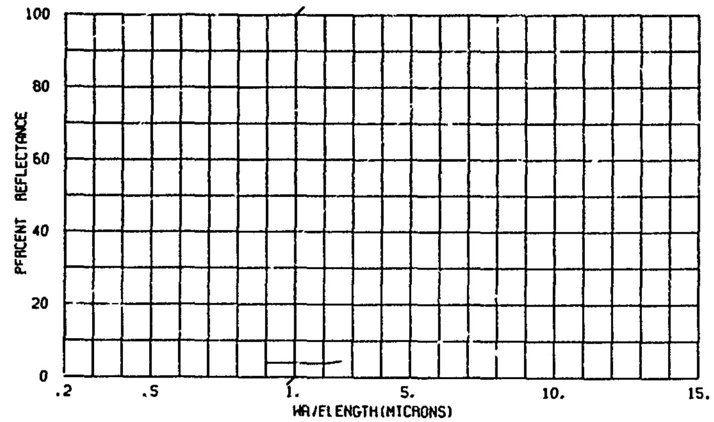
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



520001-383 ANODIZED ALUMINUM, 2 COATS ZINC CHROMATE, WET DECKED, 1 COAT 529A O.D.

SUBJECT CODES
AENB ECEBI AEL CDA CED DFAA DFCE DK ECCA ECCB

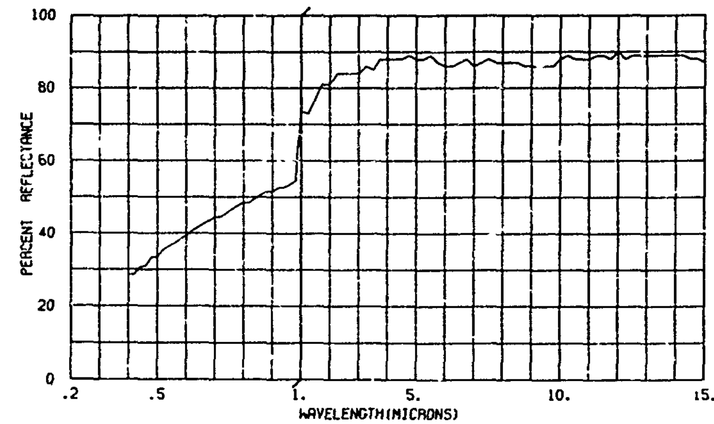
PARAMETER INFORMATION
DATE= 24 11 67 TIME= LAT= 42.5 N LONG= 83.0 W ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-079 PALLADIUM COATING ON 321 CORROSION RESISTANT STEEL PREVIOUS-LY HEAT TREATED AT 1000 DEGREES F., NO THERMAL TREATMENT.

SUBJECT CODES
AEMC AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

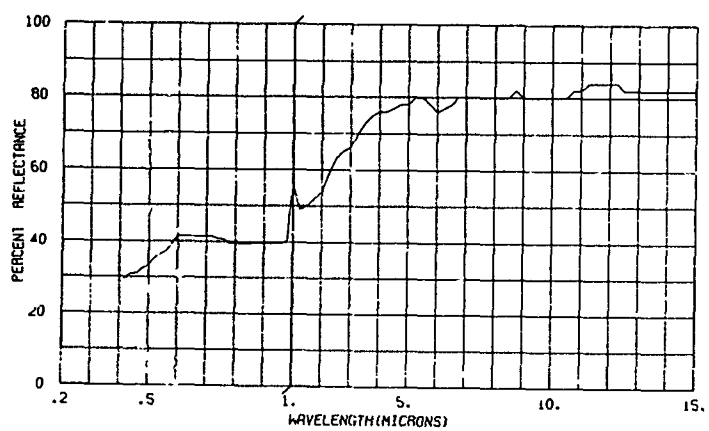
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-080 PLATINUM COATING ON 321 CORROSION RESISTANT STEEL PREVIOUSLY HEAT TREATED AT 1000 DEGREES F., NO THERMAL TREATMENT.

SUBJECT CODES
AEMD AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCC

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



805289-081 GOLD COATING ON 321 CORROSION RESISTANT STEEL PREVIOUSLY HEAT TREATED AT 1000 DEGREES F., NO THERMAL TREATMENT.

SUBJECT CODES
AEMD AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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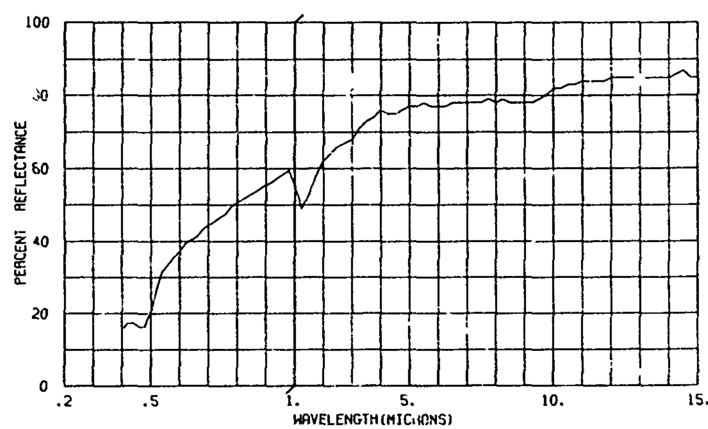
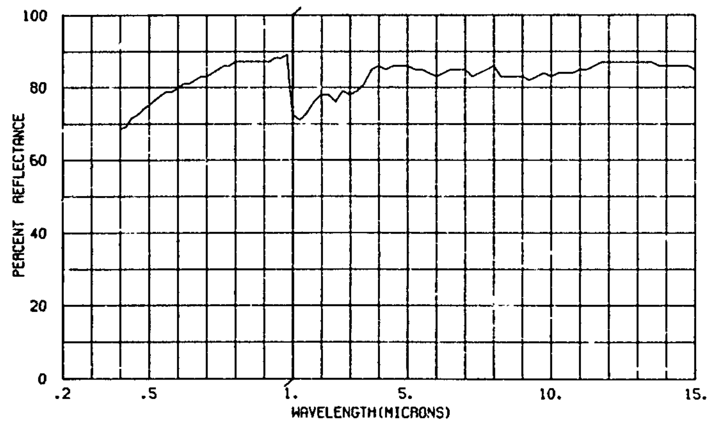


B05289-084 SILVER COLLOID (SOLAR NO. S11-868) ON 321 CORROSION RESIST-ANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEMD AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

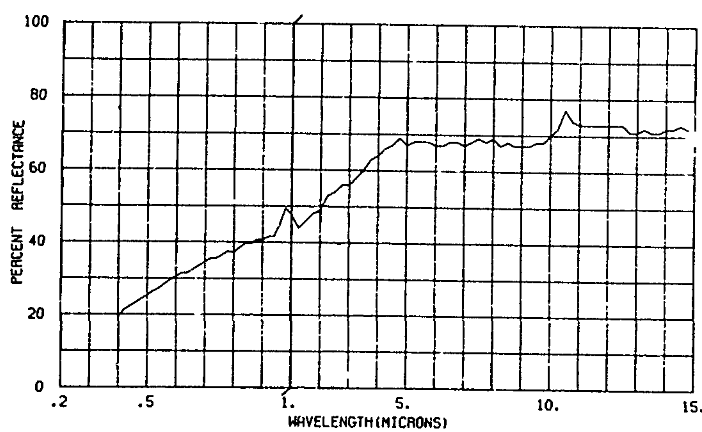
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-087 PLATINUM COATING IN ADDITION TO CERAMIC COATING OF B-05289-085. NO THERMAL TREATMENT.

SUBJECT CODES
AEMD AER AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B05289-086 PALLADIUM COATING IN ADDITION TO CERAMIC COATING OF B-05289-085. NO THERMAL TREATMENT.

SUBJECT CODES
AEMD AER AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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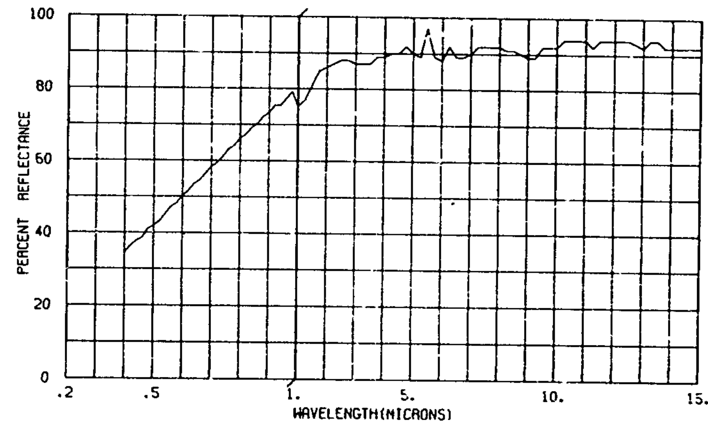

B05289-078 ALUMINUM COATING (SOLAR NO. S10-33A) ON 321 CORROSION RE-SISTANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AEMDA AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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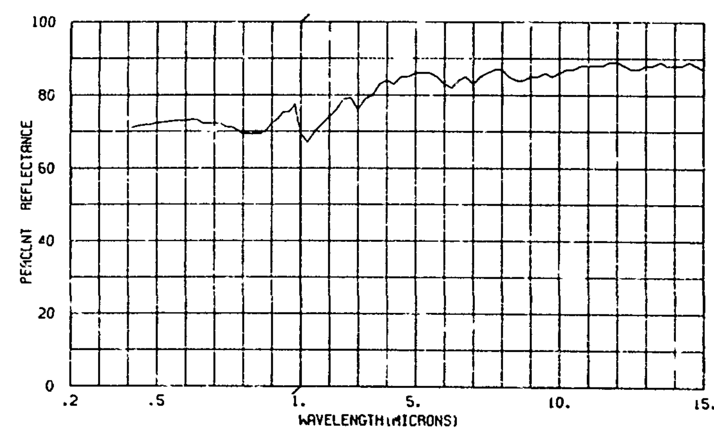

805289-090 HEATRER ON STAINLESS STEEL (.0006 IN. THICKNESS OF PAINT). NO THERMAL TREATMENT.

SUBJECT CODES
AENE AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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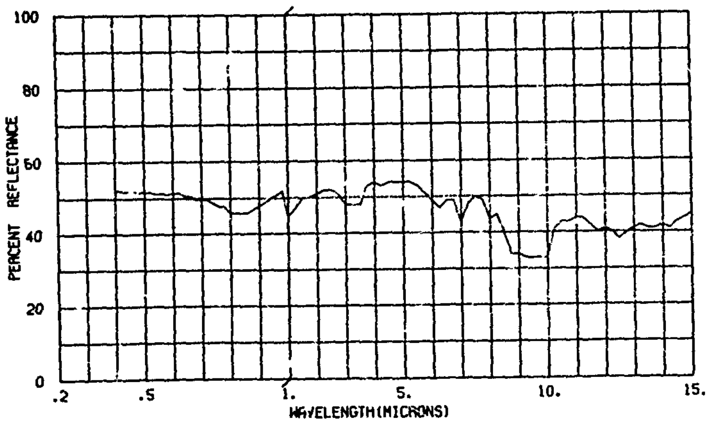

805289-009 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TYPE 321 CORROSION RESISTANT STEEL (.001 IN. THICKNESS OF PAINT), 300 HOURS AT 600 DEGREES F. IN AIR.

SUBJECT CODES
AENEB AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCO ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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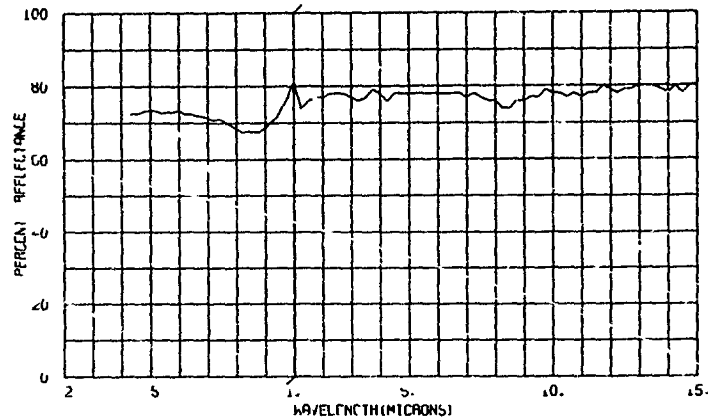

805289-010 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TYPE 321 CORROSION RESISTANT STEEL (.001 IN. THICKNESS OF PAINT), 303 HOURS AT 871 DEGREES F. IN AIR.

SUBJECT CODES
AENEB AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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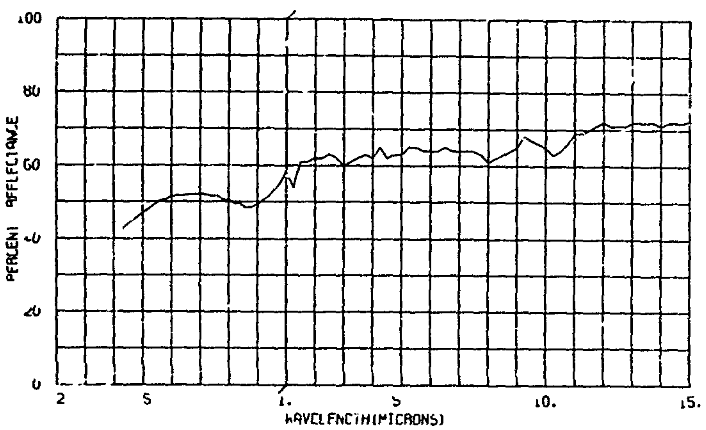

805289-011 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TYPE 321 CORROSION RESISTANT STEEL (.001 IN. THICKNESS OF PAINT), NO THERMAL TREATMENT.

SUBJECT CODES
AENEB AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCO ECCE

PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TEMP= WIND SP= WIND DI= CLD= VIS=
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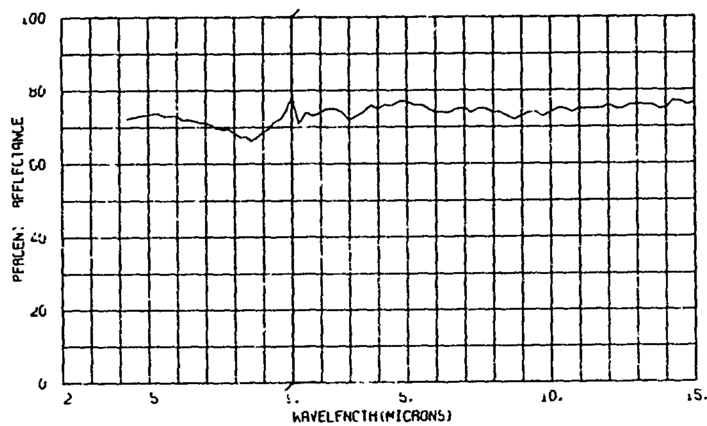
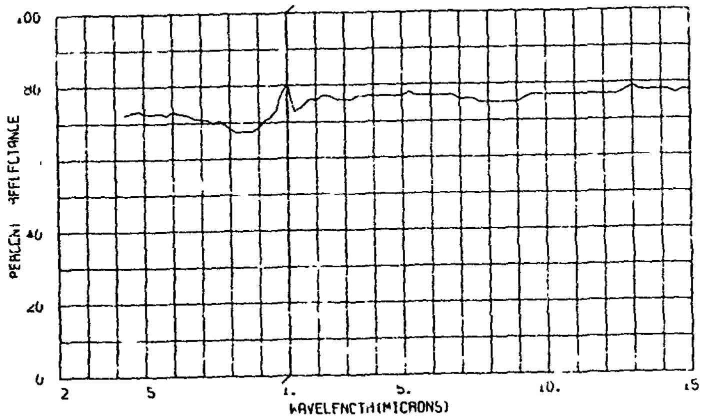


805289-012 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TI-75A TITANIUM (.001 IN. THICKNESS OF PAINT), 300 HOURS AT 600 DEGREES F. IN AIR.

SUBJECT CODES
AEMEB AEL CO CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION

DATE=	57 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

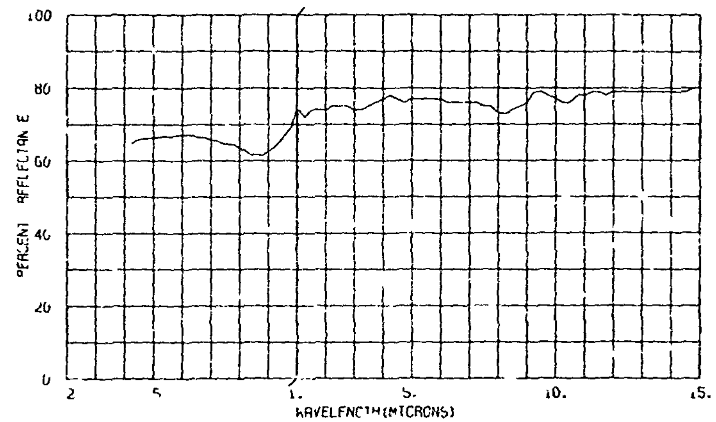


805289-013 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TI-75A TITANIUM (.001 IN. THICKNESS OF PAINT), 100 HOURS AT 810 DEGREES F. IN AIR.

SUBJECT CODES
AEMEB AEL CO CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION

DATE=	57 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

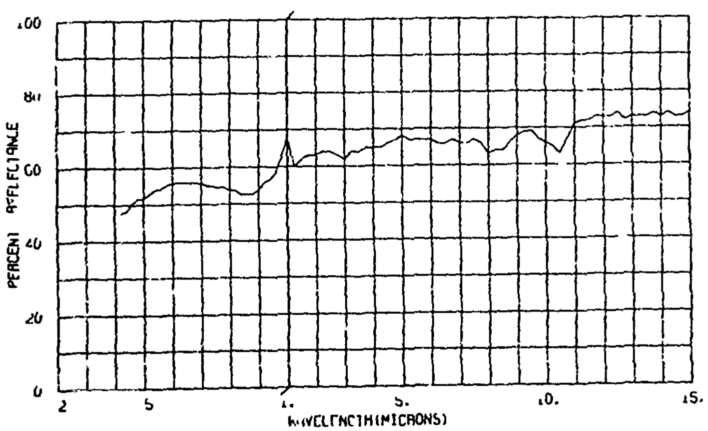


805289-014 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TI-75A TITANIUM (.001 IN. THICKNESS OF PAINT), 303 HOURS AT 825 DEGREES F. IN AIR.

SUBJECT CODES
AEMEB AEL CO CFD DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION

DATE=	57 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

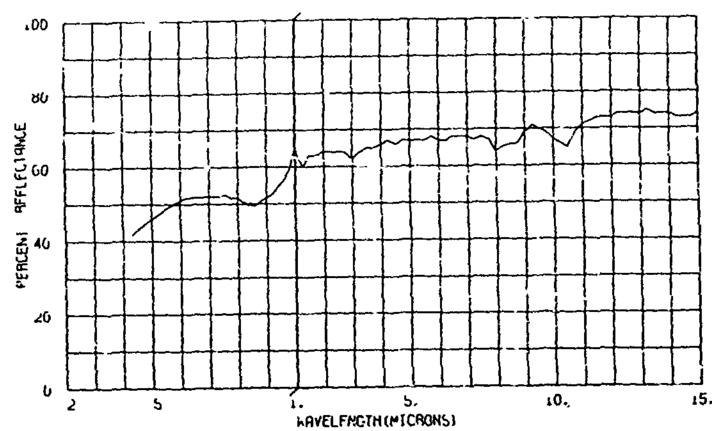


805289-015 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TI-75A TITANIUM (.001 IN. THICKNESS OF PAINT), 303 HOURS AT 871 DEGREES F. IN AIR.

SUBJECT CODES
AEMEB AEL CO CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

PARAMETER INFORMATION

DATE=	57 TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN=	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



803289-016 DOW CORNING XP-310 ALUMINIZED SILICON PAINT ON TI-75A TITANIUM (.001 IN. THICKNESS OF PAINT), NO THERMAL TREATMENT.

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SUBJECT CODES
 AEMEB  AEL    CD     CED    DFA    DFF    DK     ECB    ECCA   ECCB
 ECCC   ECCD   ECCE

PARAMETER INFORMATION
 DATE=         57 TIME=     LAT=         LONG=        ALT=         RANGE=
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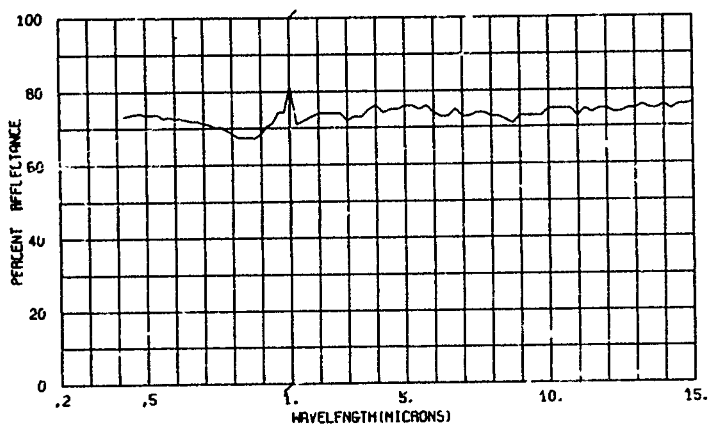

803856-042 PLASTIC LAMINATE DC 2106 (DOW-CORNING).

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SUBJECT CODES
 AEMFA  CC     CED    DFA    DFF    DK     ECAD   ECB    ECCA   ECCB

PARAMETER INFORMATION
 DATE=         58 TIME=     LAT=         LONG=        ALT=         RANGE=
 DAYS RE=         IN=       IAZ=         CN=          CAZ=         IRR=    E
 OBST=            TTEMP=    WIND SP=     WIND DI=     CLD=         VIS=
 TEMP=            DEW PT    N AVE=  001
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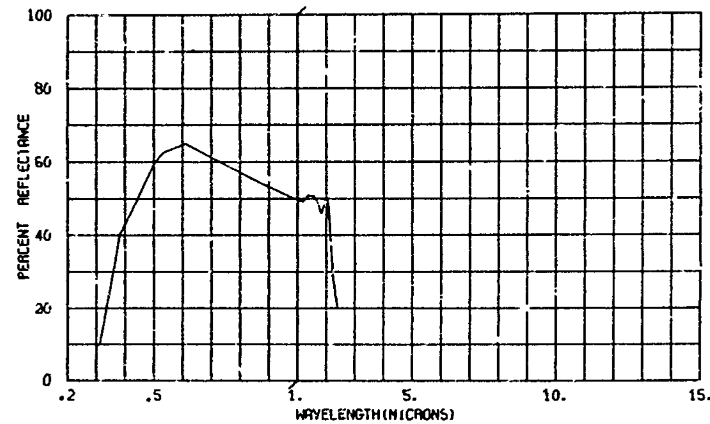

803856-043 PLASTIC LAMINATE VIBRIN 135 (NAUGATUCK CHEMICAL).

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SUBJECT CODES
 AEMFA  CC     CED    DFA    DFF    DK     ECAD   ECB    ECCA   ECCB

PARAMETER INFORMATION
 DATE=         58 TIME=     LAT=         LONG=        ALT=         RANGE=
 DAYS RE=         IN=       IAZ=         CN=          CAZ=         IRR=    E
 OBST=            TTEMP=    WIND SP=     WIND DI=     CLD=         VIS=
 TEMP=            DEW PT    N AVE=  001
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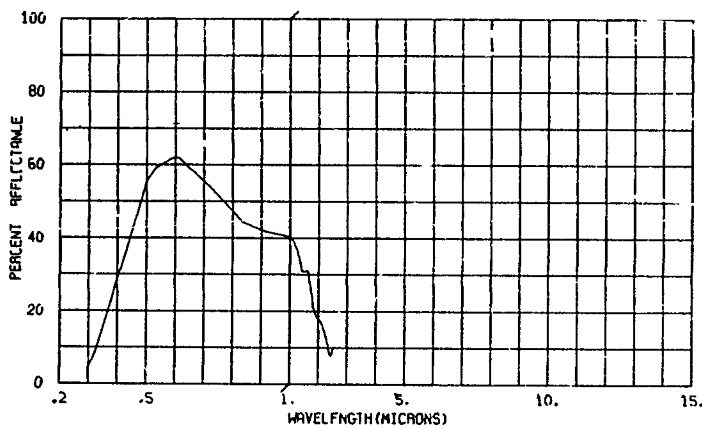

803856-044 PLASTIC LAMINATE EPOXIDE X-12100 (SHELL DEV. CO.).

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SUBJECT CODES
 AEMFA  CC     CED    DFA    DFF    DK     ECAD   ECB    ECCA   ECCB

PARAMETER INFORMATION
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 DAYS RE=         IN=       IAZ=         CN=          CAZ=         IRR=    E
 OBST=            TTEMP=    WIND SP=     WIND DI=     CLD=         VIS=
 TEMP=            DEW PT    N AVE=  001
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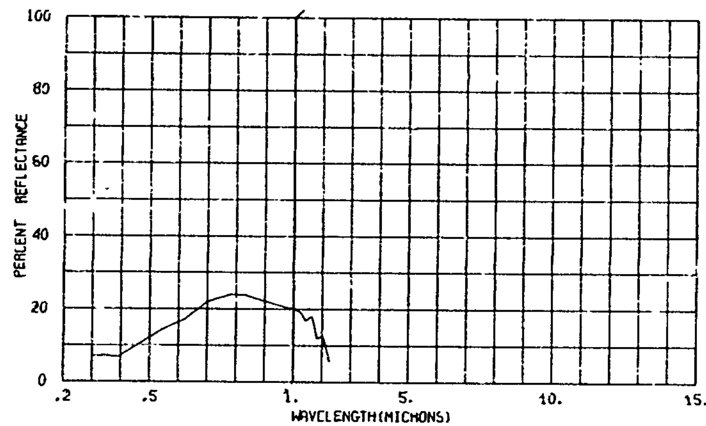
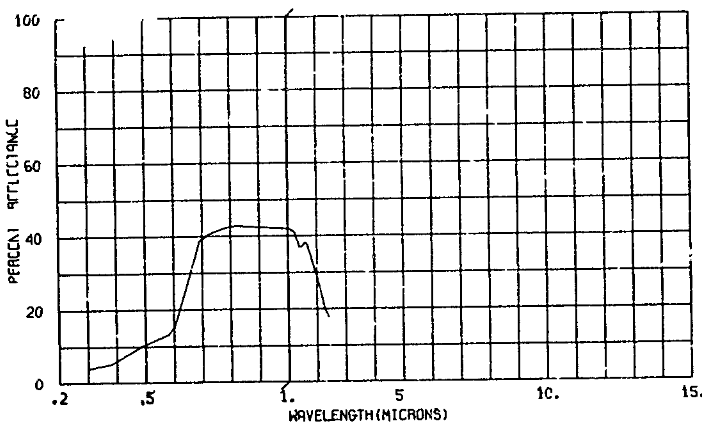


B03856-065 PLASTIC LAMINATE EPON 1001/PLYOPHHEN 5023 (SHELL DEV. CO.).

SUBJECT CODES
AEMFA CC CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-066 PLASTIC LAMINATE CTL-91LD (CINCINNATI TESTING LABS.).

SUBJECT CODES
AEMFA CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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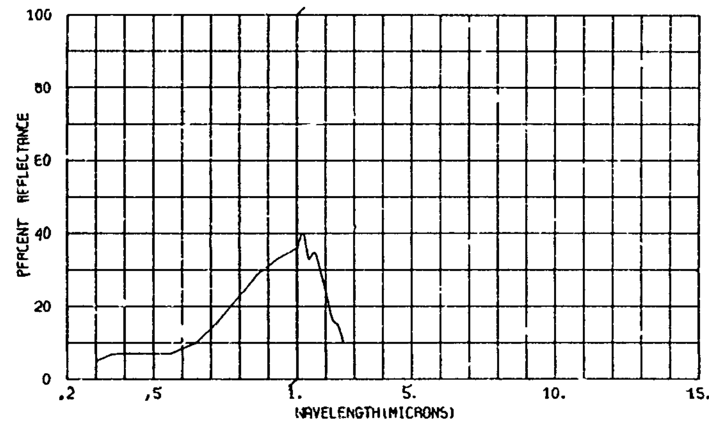
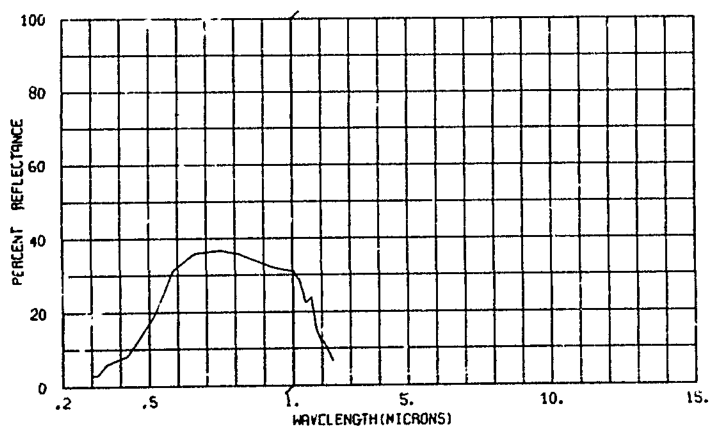


B03856-067 PLASTIC LAMINATE VIBRIN X 1068 (NAUGATUCK CHEMICAL).

SUBJECT CODES
AEMFA CD CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B03856-068 PLATINUM (PURE METAL)--AS RECEIVED FROM SUPPLIER.

SUBJECT CODES
AEMFA CC CED DFA DFF DK ECAD ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 58 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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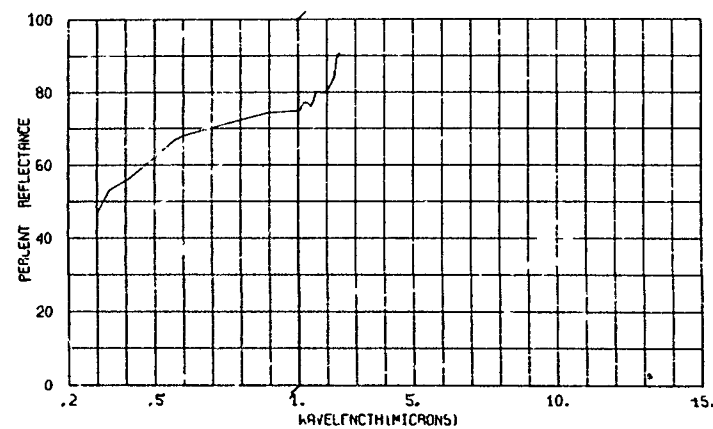
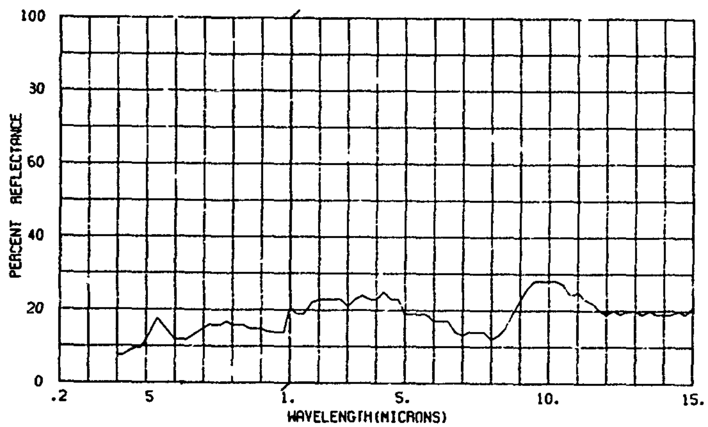


005289-085 GREEN CERAMIC (SOLAR NO. 5210-2C) ON 321 CORROSION RESIST-
ANT STEEL. NO THERMAL TREATMENT.

SUBJECT CODES
AER ECB88 AEL CD CED DFA DFF DK ECB ECCA
ECCB ECCC ECCD ECCE

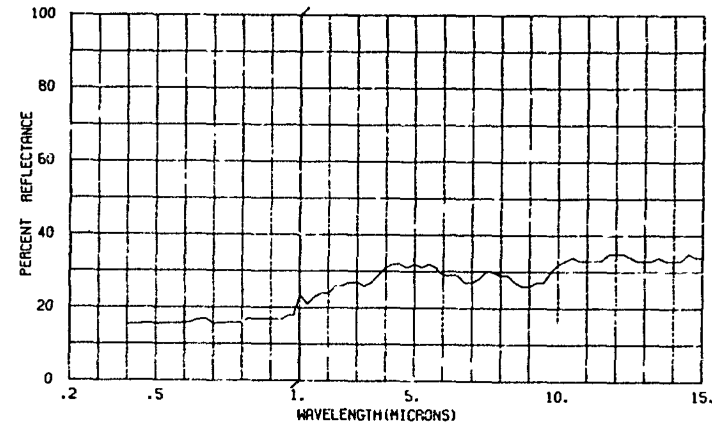
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



005289-088 CERAMIC COATING (SOLAR C28A) ON 321 CORROSION RESISTANT
STEEL (.001 IN. THICKNESS OF COATING). NO THERMAL TREATMENT.

SUBJECT CODES
AER AEL CD CED DFA DFF DK ECB ECCA ECCB
ECCC ECCD ECCE

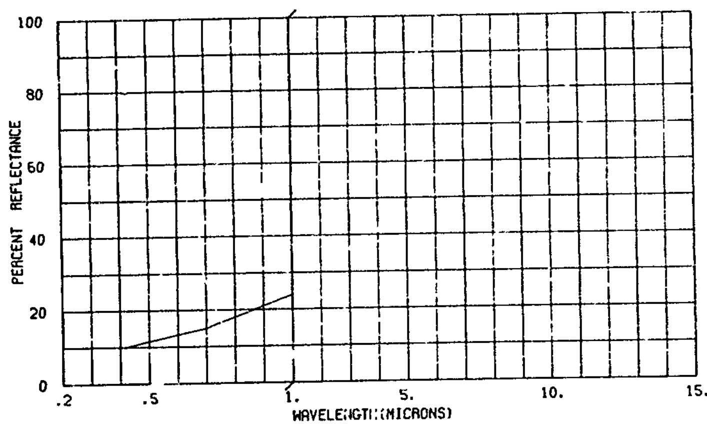
PARAMETER INFORMATION
DATE= 57 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-401 FIR BOARD, VERY OLD AND WEATHERED, SURFACE ROUGH.

SUBJECT CODES
AET CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-402 FIR BOARD, VERY OLD AND WEATHERED, SURFACE ROUGH.

SUBJECT CODES
AET CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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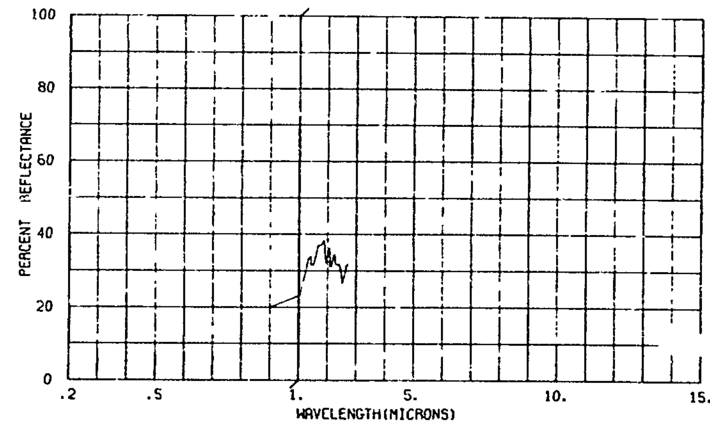

AET 3

820000-390 HEALTHY MOSS, NON-FRUITING.

SUBJECT CODES
BGB CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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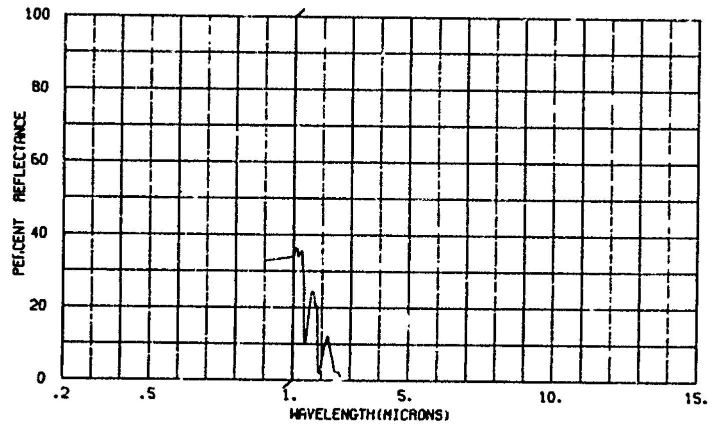

820000-391 HEALTHY MOSS, NON-FRUITING.

SUBJECT CODES
BGB CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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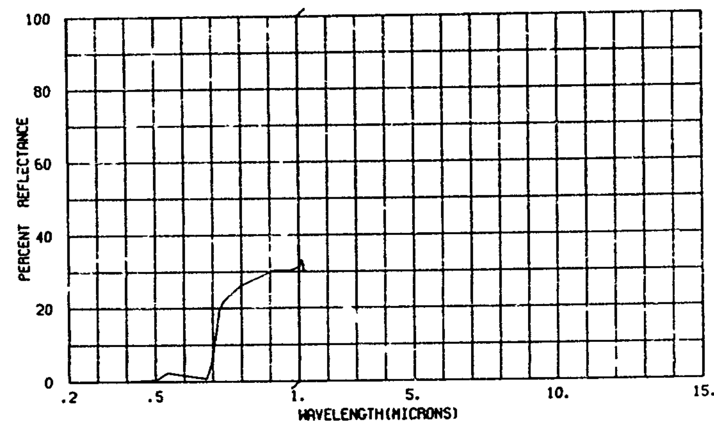

823000-396 HEALTHY MOSS, NON-FRUITING.

SUBJECT CODES
BGB CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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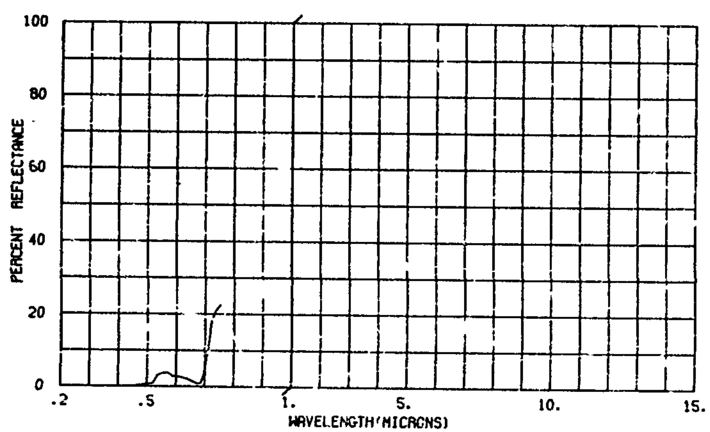
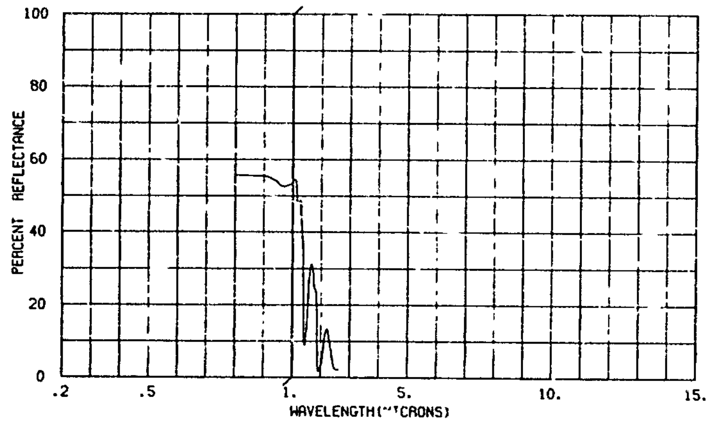


B20000-452 FERN LEAF (MARCHANTIA), UPPER LEAF SURFACE, FRESH.

SUBJECT CODES
BGCI 3GFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION

DATE= 13 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



B20000-453 FERN LEAF (MARCHANTIA), LOWER LEAF SURFACE, FRESH.

SUBJECT CODES
BGCI BGFBC ECBBE CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION

DATE= 13 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
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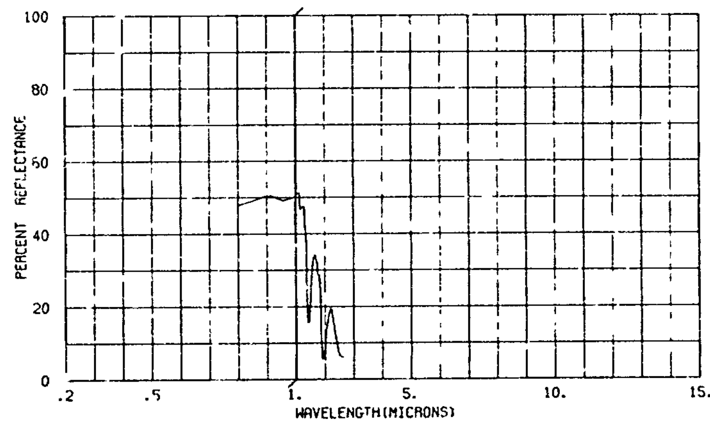
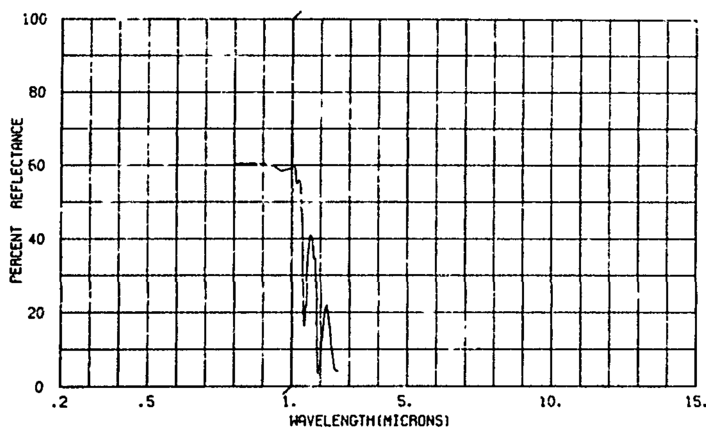


B20000-454 FERN LEAF (MARCHANTIA), UPPER LEAF SURFACE, AFTER DRYING IN AIR 4 HOURS.

SUBJECT CODES
BGCI BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION

DATE= 13 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE= 0000	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			

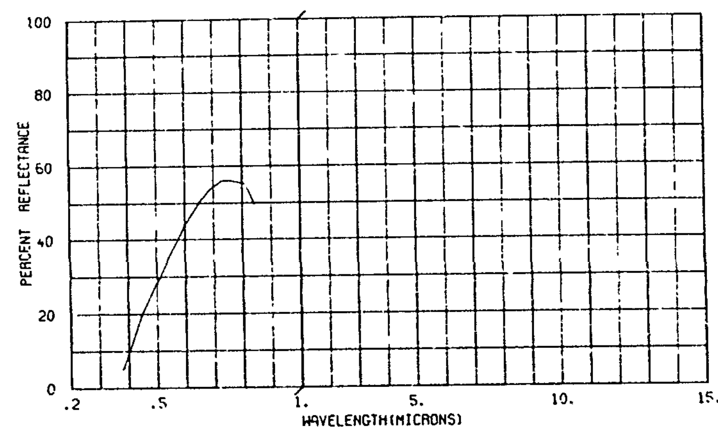


B20000-459 CORN LEAF (ZEA MAIZE), KILLED BY FROST, UPPER LEAF SURFACE.

SUBJECT CODES
BGCMC BGFBD BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION

DATE= 25 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLD=	VIS=
TEMP=	DEW PT	N AVE= 001			



B20000-460 CORN LEAF (ZEA MAIZE), KILLED BY FROST, UPPER LE.F SURFACE.

SUBJECT CODES
AGCMC BGFBD BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION

DATE= 25 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLO=	VIS=
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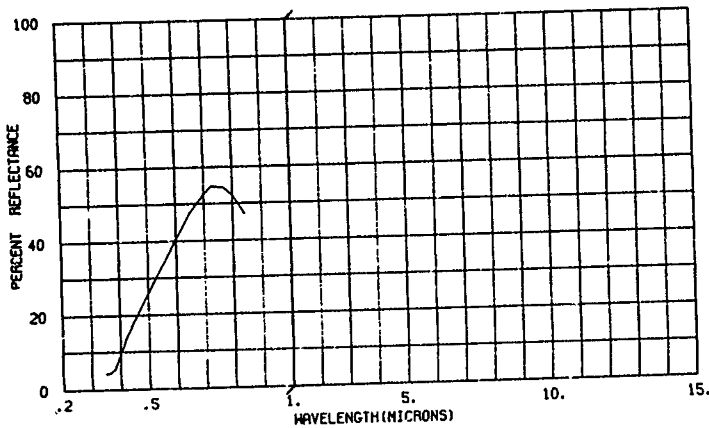

B20000-461 CORN LEAF (ZEA MAIZE), KILLED BY FROST, UPPER LEAF SURFACE.

SUBJECT CODES
BGCMC BGFBD BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION

DATE= 25 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
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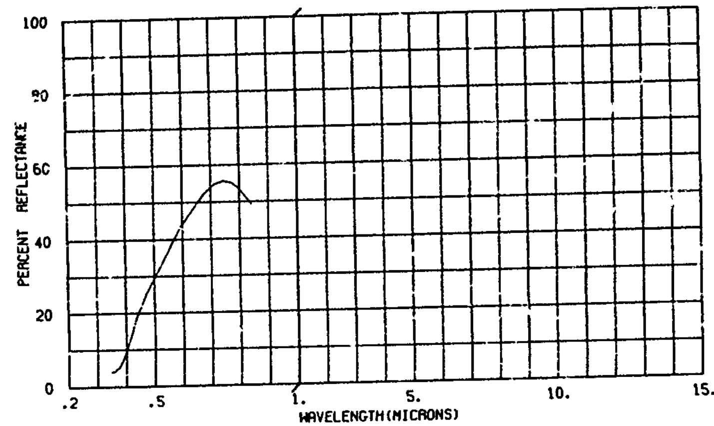

B20000-462 CORN LEAF (ZEA MAIZE), KILLED BY FROST, LOWER LEAF SURFACE.

SUBJECT CODES
BGCMC BGFBC BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION

DATE= 25 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLO=	VIS=
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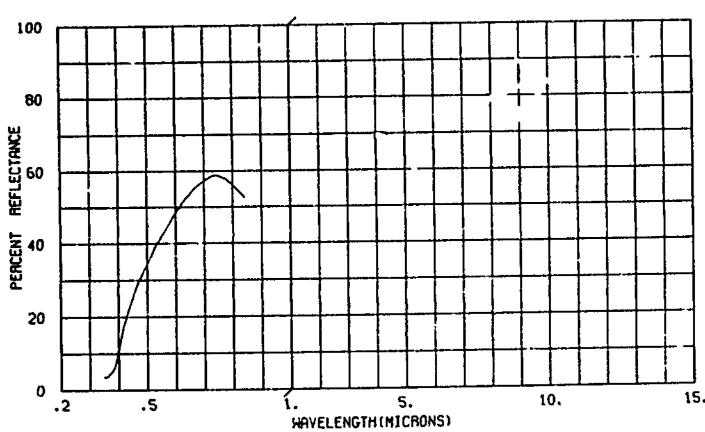

B20000-463 CORN LEAF (ZEA MAIZE), KILLED BY FROST, LOWER LEAF SURFACE.

SUBJECT CODES
BGCMC BGFBC BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION

DATE= 25 10 66	TIME=	LAT=	LONG=	ALT=	RANGE=
DAYS RE=	IN= 03.0	IAZ=	CN=	CAZ=	IRR= E
OBST=	TTEMP=	WIND SP=	WIND DI=	CLO=	VIS=
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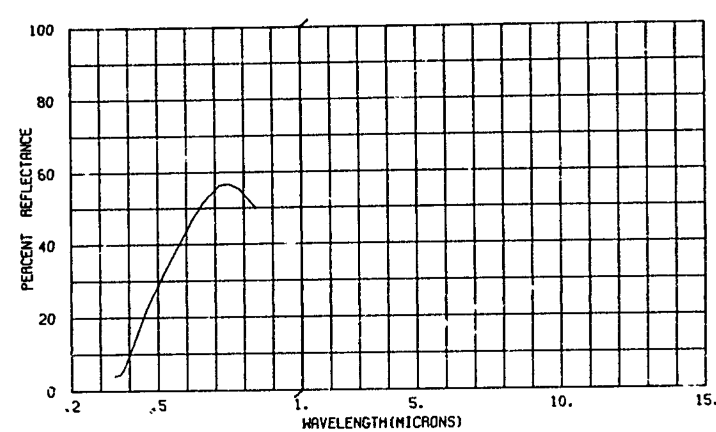

B20000-444   CORN LEAF (ZEA MAIZE), KILLED BY FROST, LOWER LEAF SURFACE.

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SUBJECT CODES
  BGCMC  BGFBC  BGFF   CDA    CED    DFAA   DFCE   DK     ECAD   ECB
  ECCA

PARAMETER INFORMATION
 DATE= 25 10 66 TIME=      LAT=        LONG=        ALT=         RANGE=
 DAYS RE=       IN=   03.0 IAZ=        CN=          CAZ=         IRR=   E
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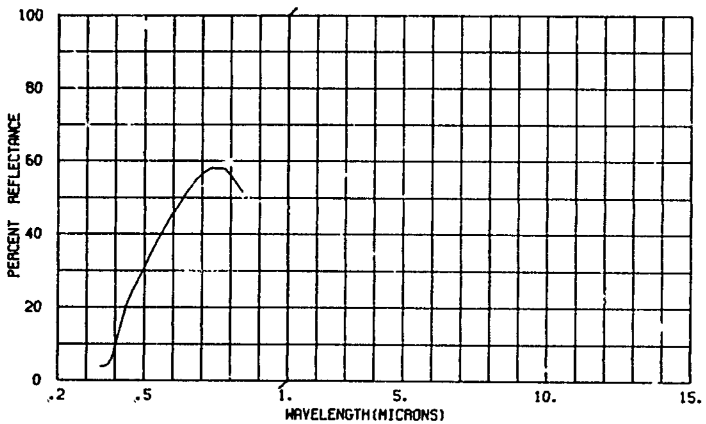

B20000-381 OAK (Q. VELEUTINA), UPPER LEAF SURFACE, GREEN, FRESHLY PICK-ED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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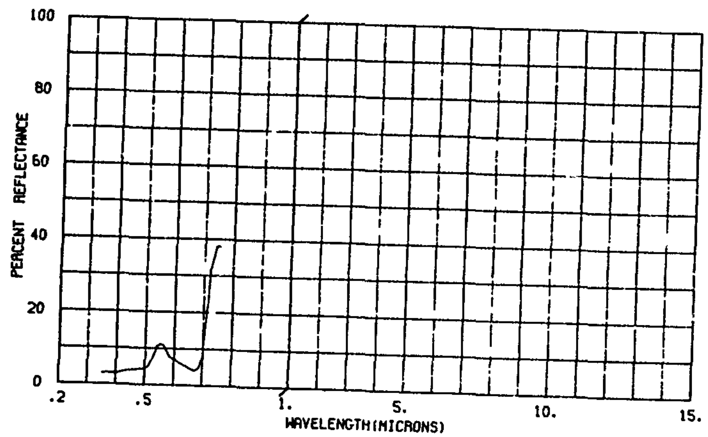

B20000-386 OAK (Q. VELEUTINA), LOWER LEAF SURFACE NEAR TIP OF LEAF, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR=
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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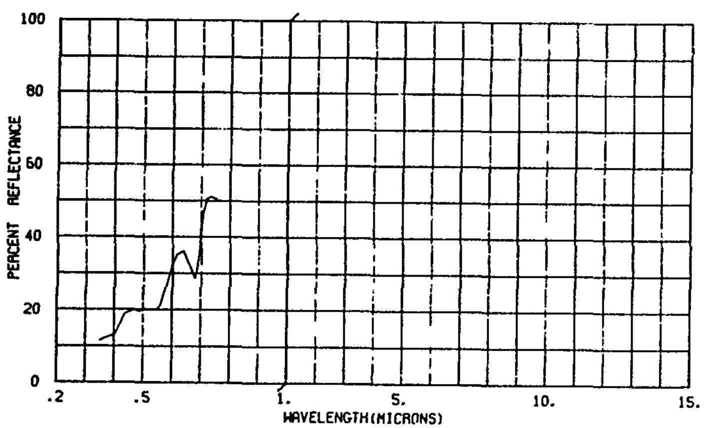

B20000-385 OAK (Q. VELEUTINA), LOWER LEAF SURFACE NEAR BASE OF LEAF, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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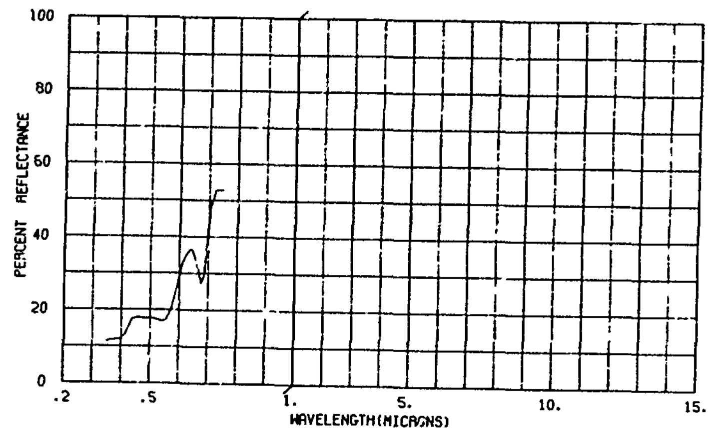

B20000-387 OAK (Q. VELEUTINA), LOWER LEAF SURFACE, GREEN, FRESHLY PICK-ED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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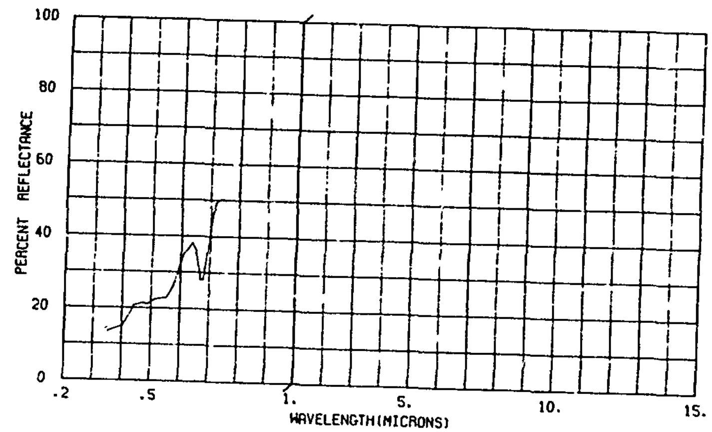

820000-388 OAK (Q. VELEUTINA), LOWER LEAF SURFACE, GREEN, FRESHLY PICK-
ED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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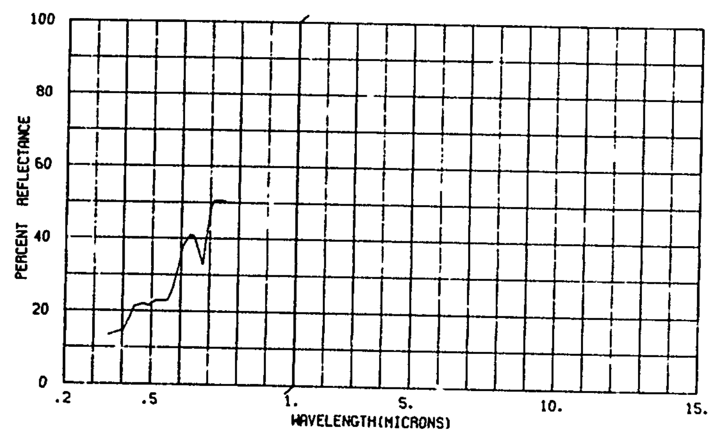

820000-389 OAK (C. VELEUTINA), LOWER LEAF SURFACE, GREEN, FRESHLY PICK-
ED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 'AZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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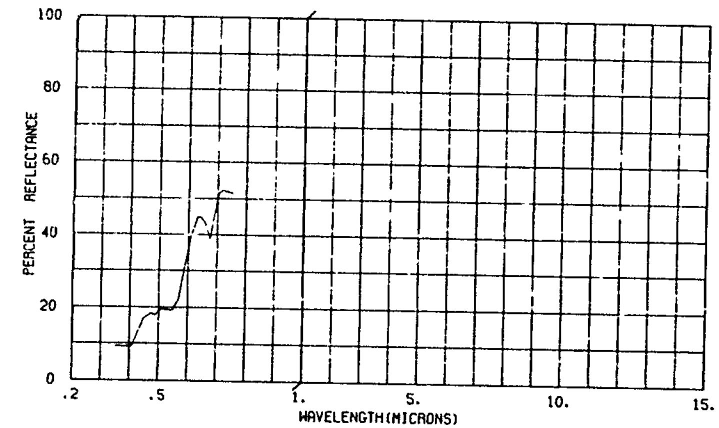

[illegible]-392 OAK (Q. VELEUTINA), LOWER LEAF SURFACE, BROWNED.

SUBJECT CODES
BGDBC BGFBC BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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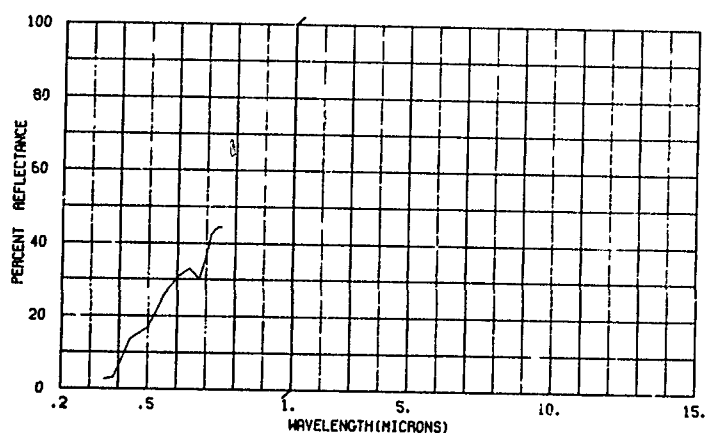

82[illegible]0-393 OAK (Q. VELEUTINA), UPPER LEAF SURFACE, BROWNED.

SUBJECT CODES
BGDBC BGFBD BGFF CDA CED DFAA DFCE DK ECAD ECB
ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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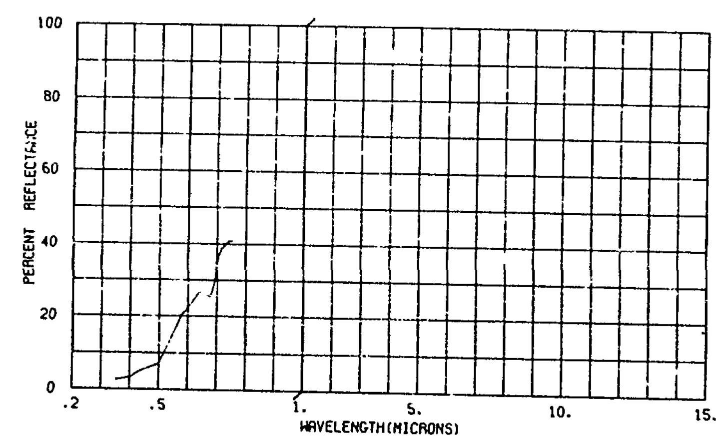

820000-394 OAK (Q. VELEUTINA), LOWER LEAF SURFACE, GREEN, FRESHLY PICK-
ED.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
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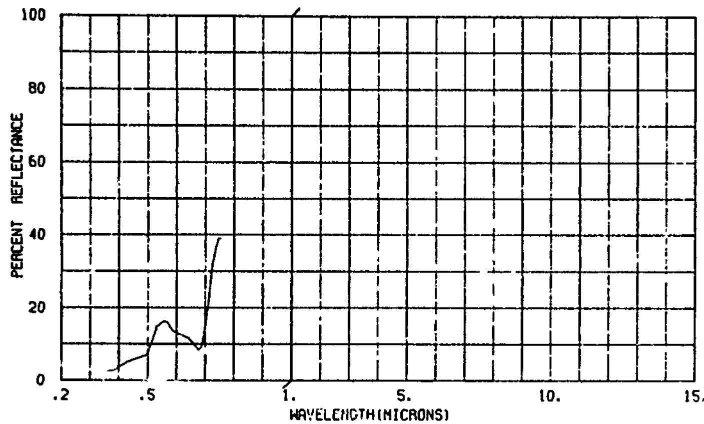

820000-395 OAK (Q. VELEUTINA), UPPER LEAF SURFACE, GREEN, FRESHLY PICK-
ED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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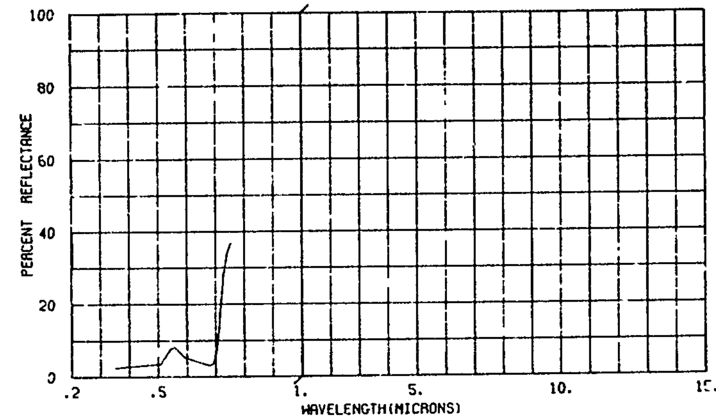

820000-403 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
CBST= TTEPP= WIND SP= WIND DI= CLD= VIS=
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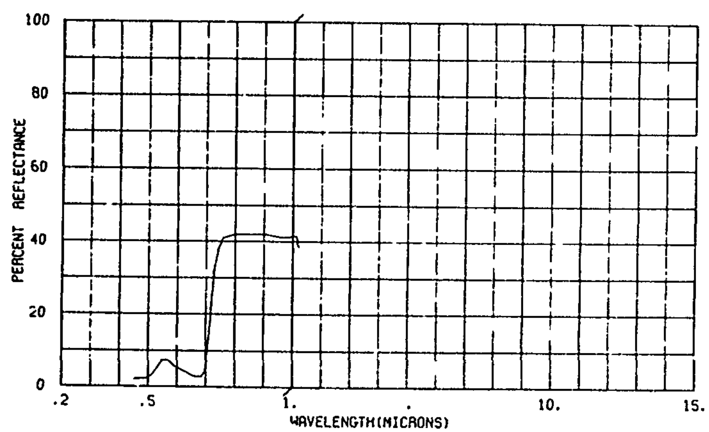

820000-404 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
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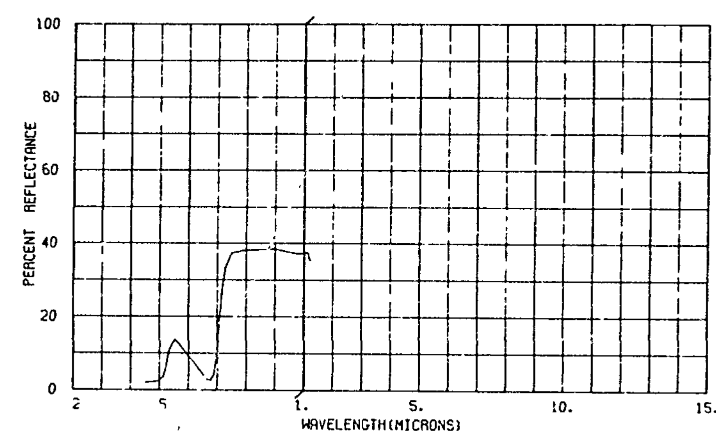

B20000-405 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TEMP= WIND SP= WIND DI= CLD= VIS=
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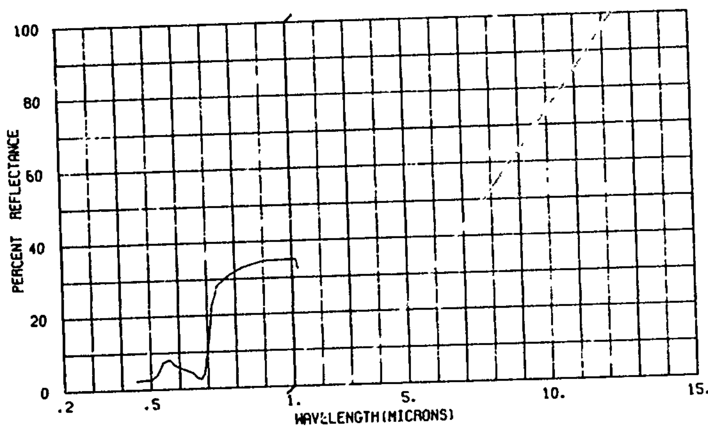
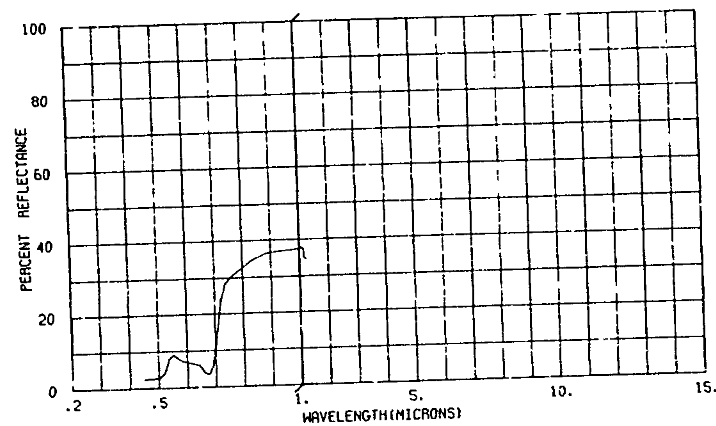


B20000-406 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

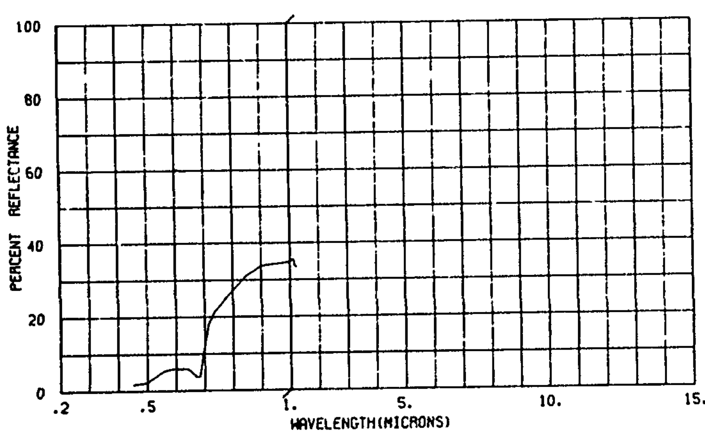
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-407 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-408 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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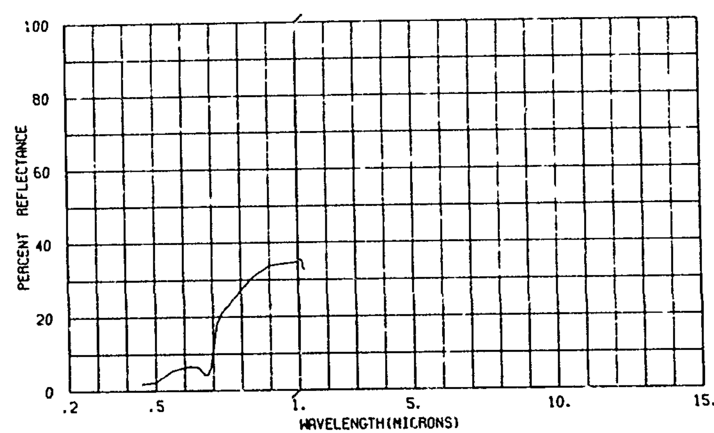

B20000-409 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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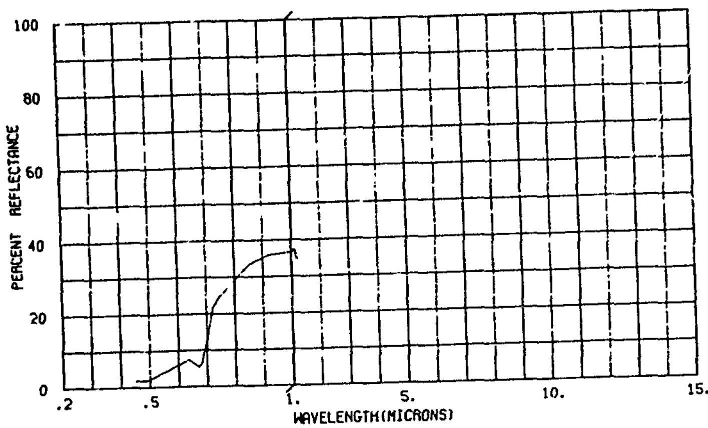
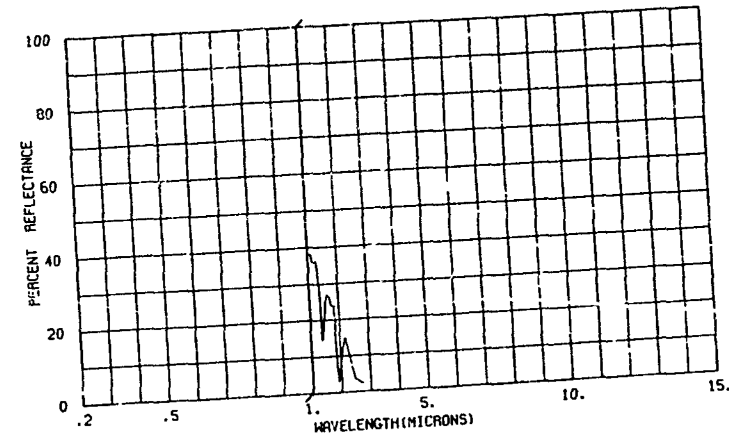


B20000-410 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-411 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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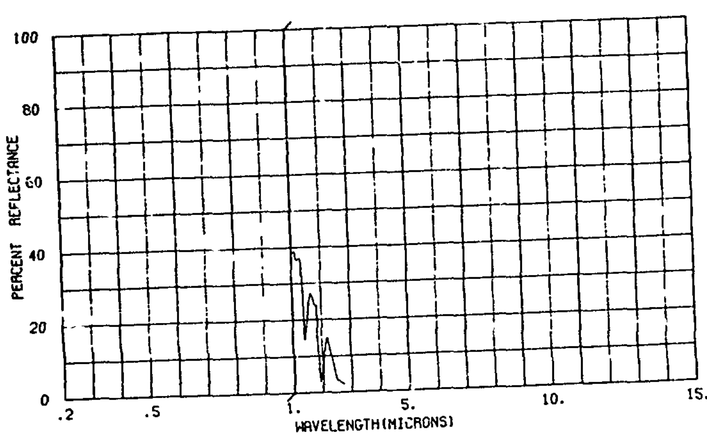
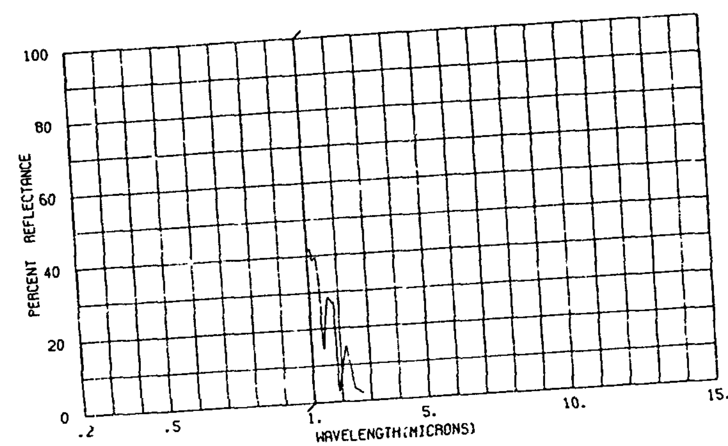


B20000-412 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-413 BLACK OAK, UPPER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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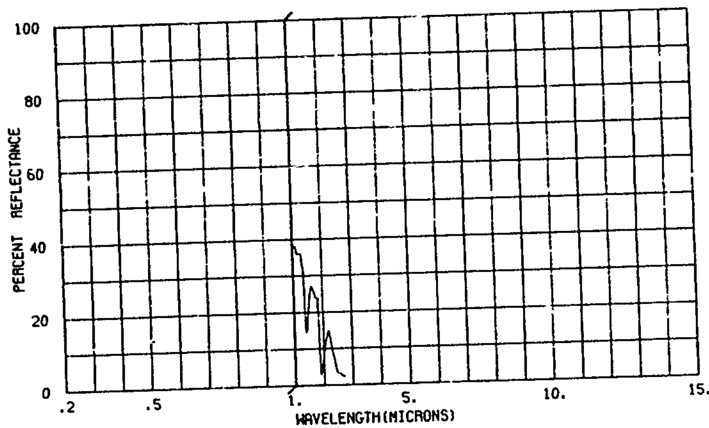
TEMP= DEW PT N AVE= 001



820000-414 BLACK OAK, UPPER LEAF SURFACE, GREEN, PICKED FROM BRANCH THAT WAS REMOVED FROM TREE 4 HOURS PREVIOUSLY.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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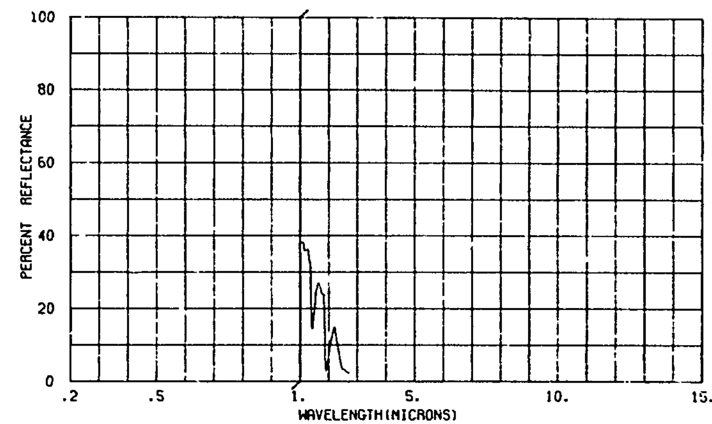

820000-415 BLACK OAK, UPPER LEAF SURFACE, GREEN, PICKED FROM BRANCH THAT WAS REMOVED FROM TREE 4 HOURS PREVIOUSLY.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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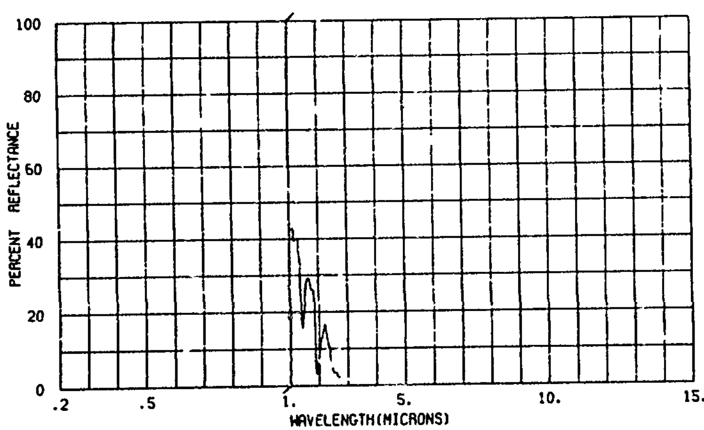

820000-416 BLACK OAK, UPPER LEAF SURFACE, GREEN, PICKED FROM BRANCH THAT WAS REMOVED FROM TREE 4 HOURS PREVIOUSLY.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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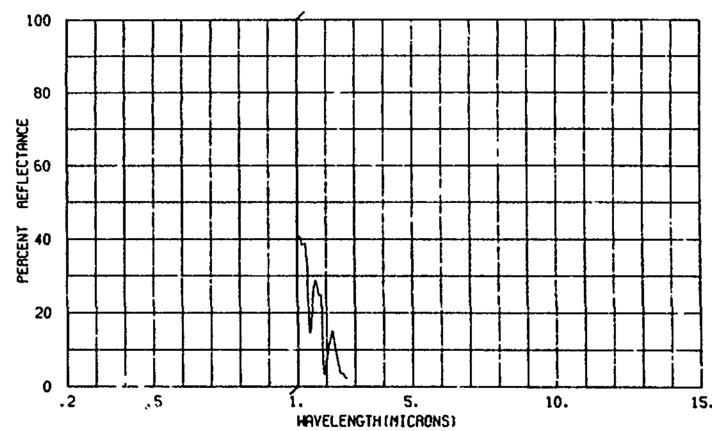

820000-417 BLACK OAK, UPPER LEAF SURFACE, GREEN, PICKED FROM BRANCH THAT WAS REMOVED FROM TREE 4 HOURS PREVIOUSLY.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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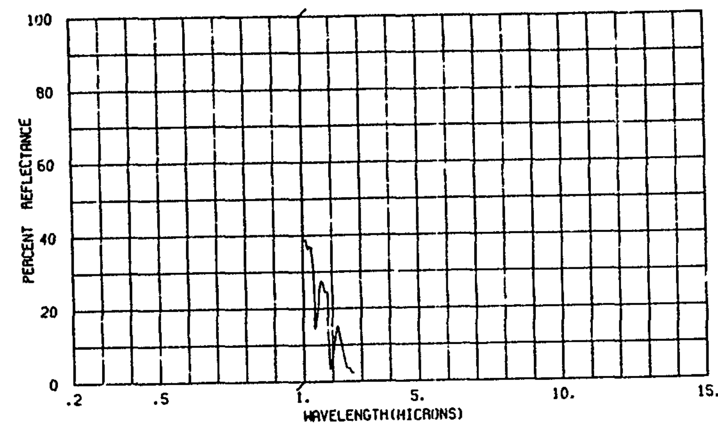
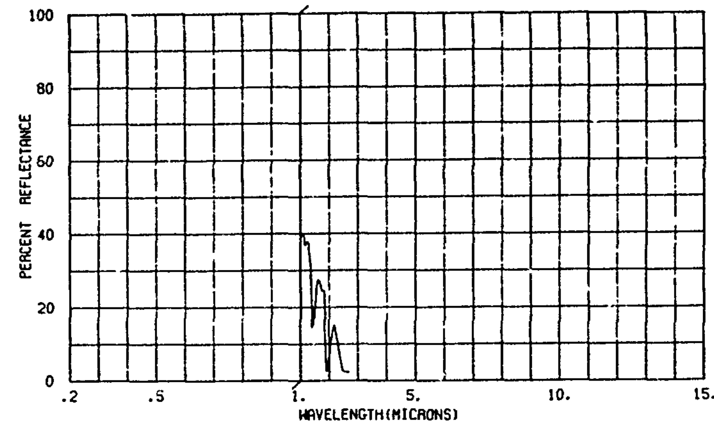


820000-418 BLACK OAK, UPPER LEAF SURFACE, GREEN, PICKED FROM BRANCH THAT WAS REMOVED FROM TREE 4 HOURS PREVIOUSLY.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

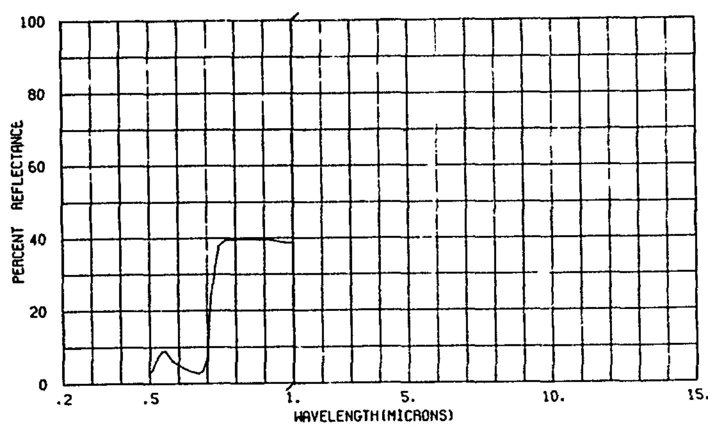
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-419 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

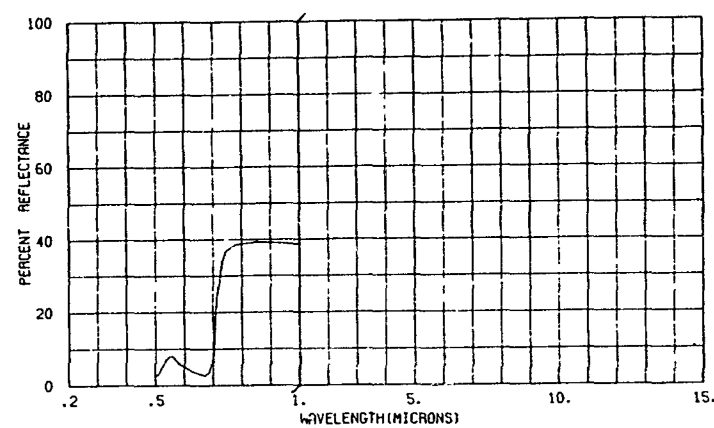
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-420 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

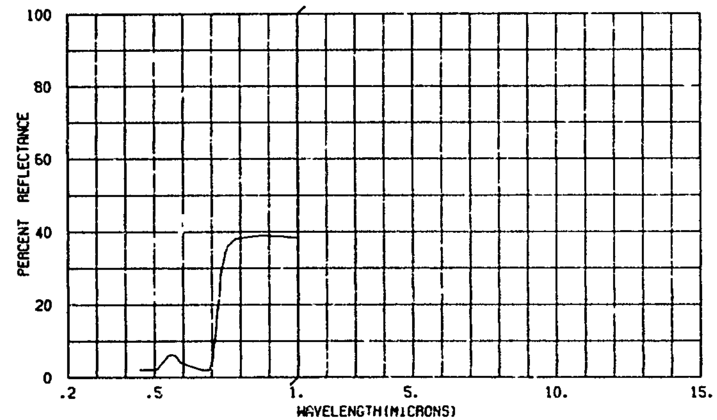
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-421 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IPR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-422 BLACK OAK, UPPER LEAF SURFACE, BROWNED.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA CFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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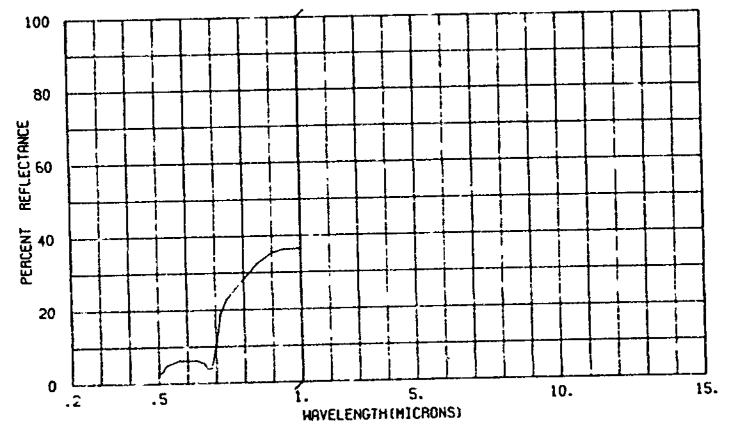
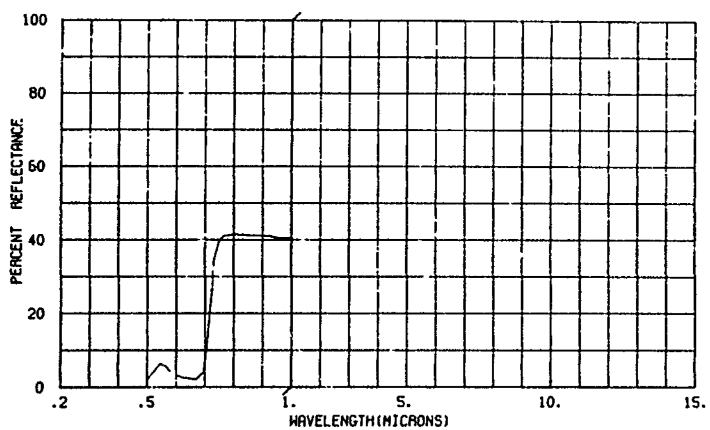


B20000-423 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

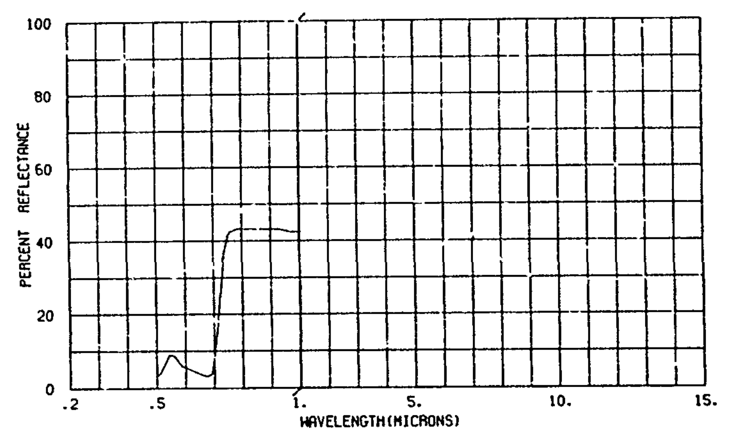
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-424 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

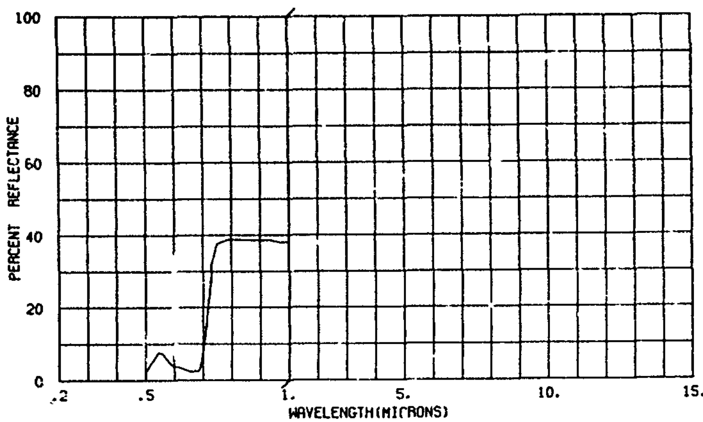
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-425 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECB ECCA

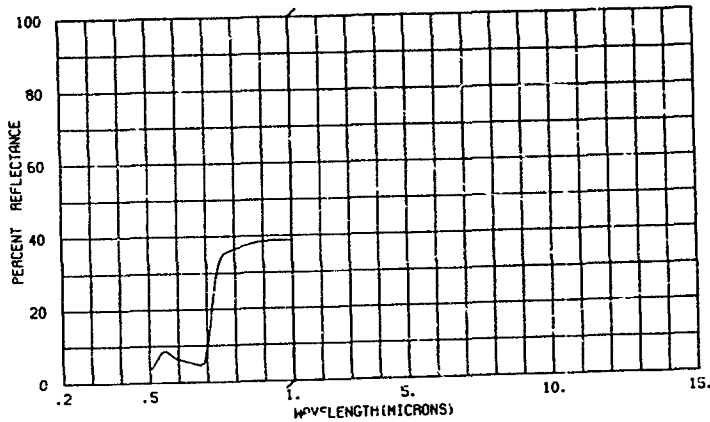
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-426 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



BGD 392

820000-427 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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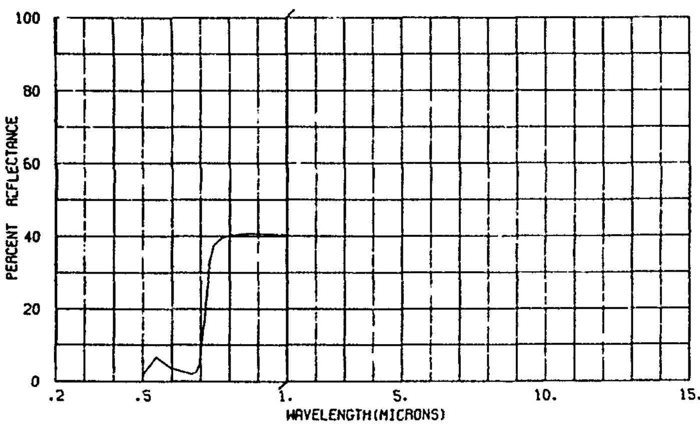

820000-428 BLACK OAK, UPPER LEAF SURFACE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
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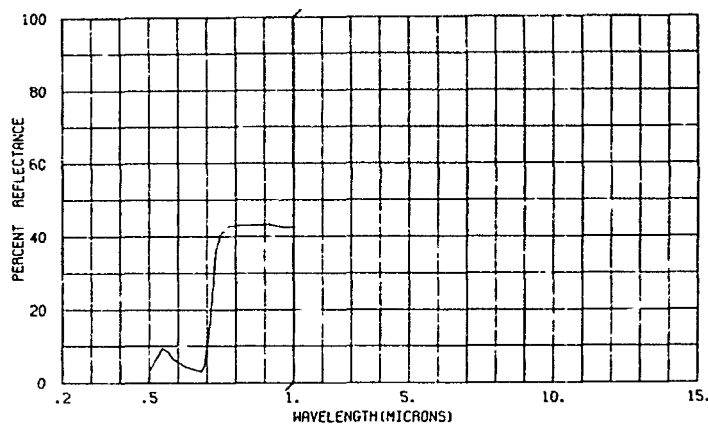
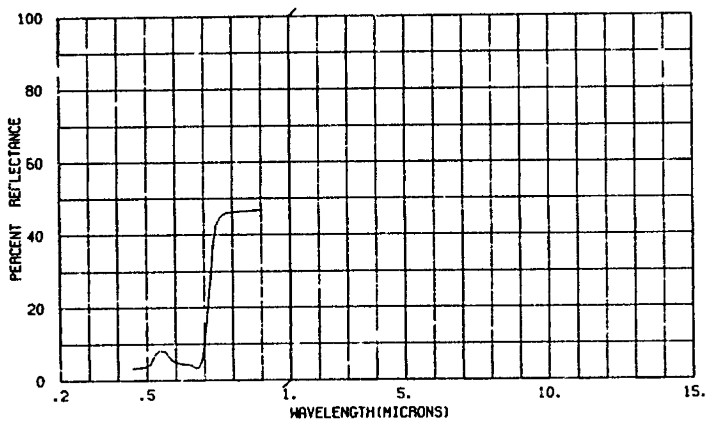
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-429 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

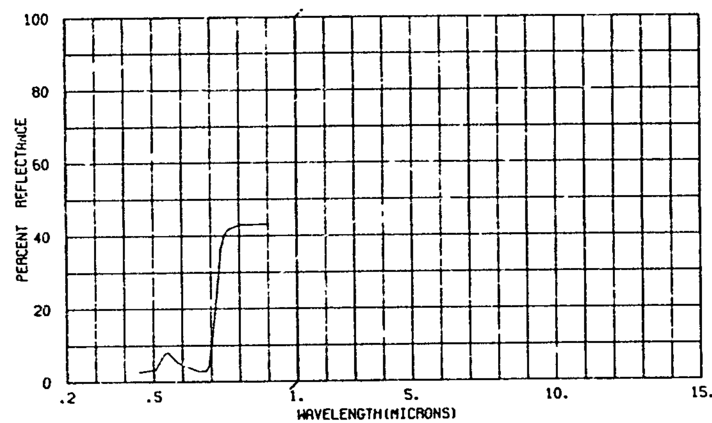
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-430 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

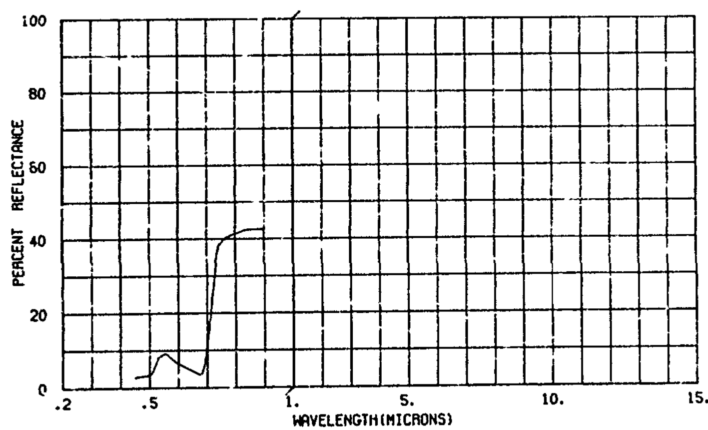
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-431 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

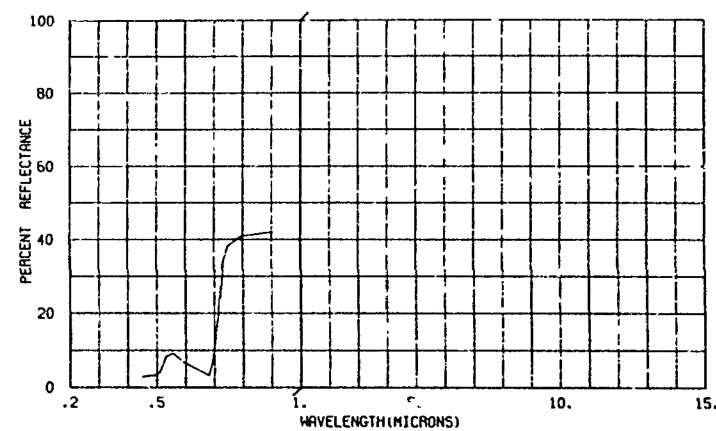
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-432 BLACK OAK, UPPER LEAF SURFACE, AFTER 1G HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

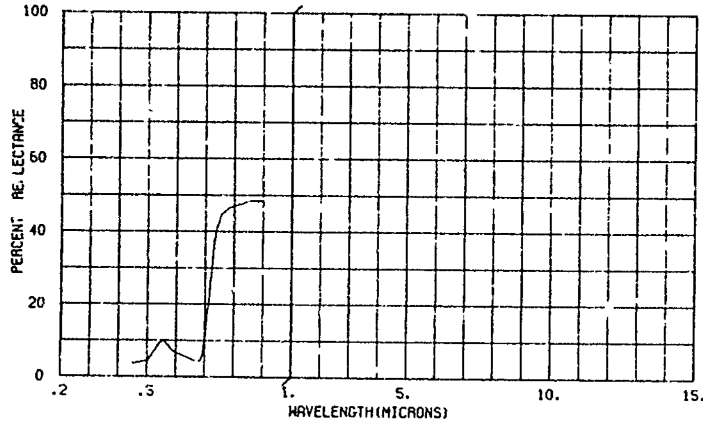
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-433 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

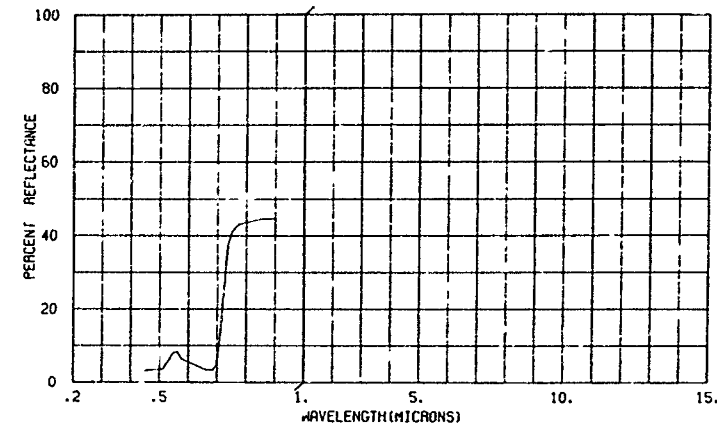
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR E
OBST= TTEMP= A.ND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-434 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

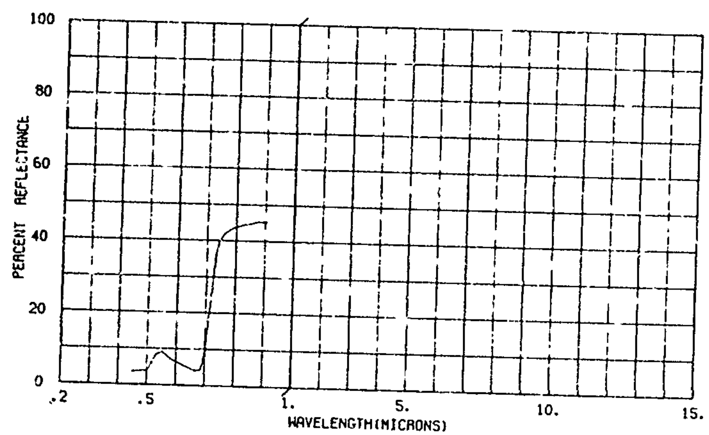
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-435 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

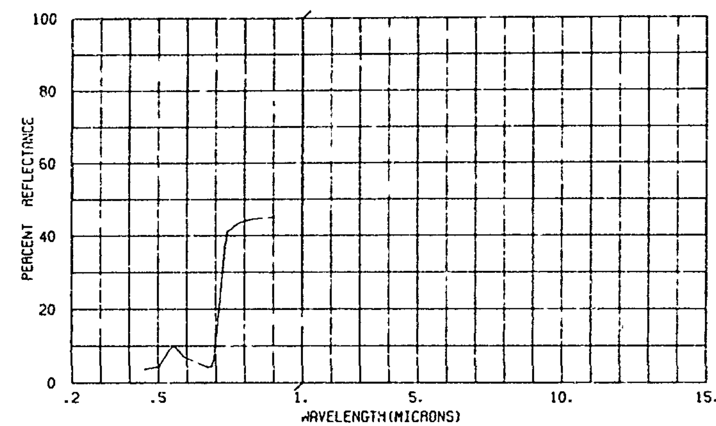
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N IONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP , WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-436 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

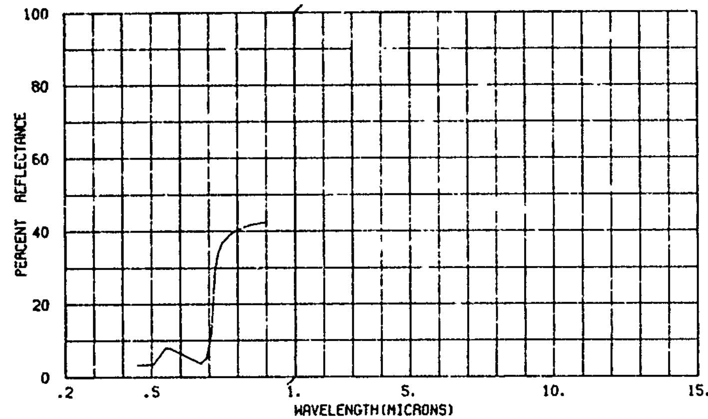
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RF= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-437 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB ECCA

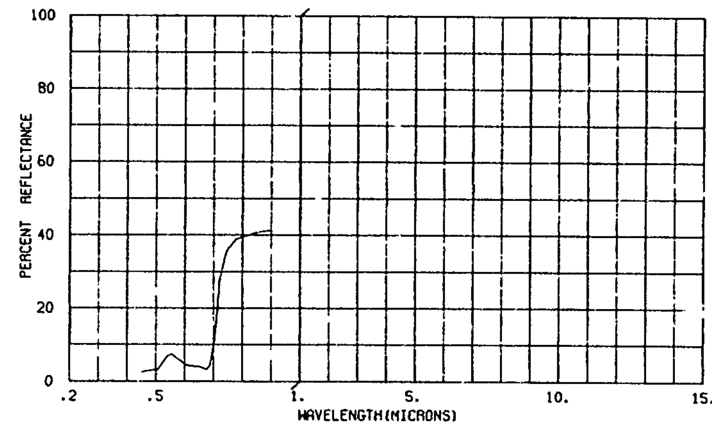
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-438 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECB LCCA

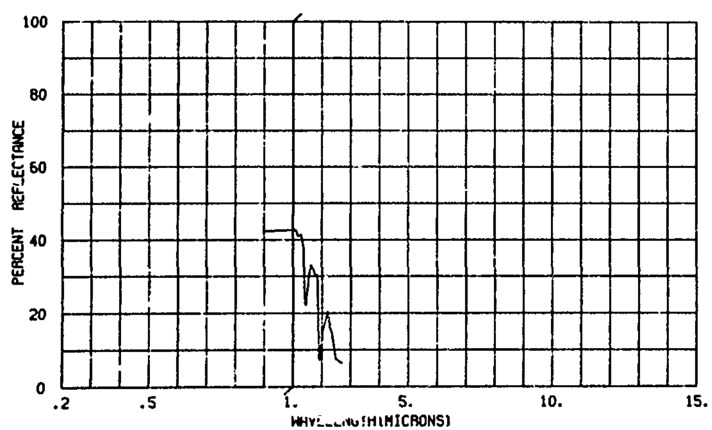
PARAMETER INFORMATION
DATE= 23 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-439 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-440 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCC DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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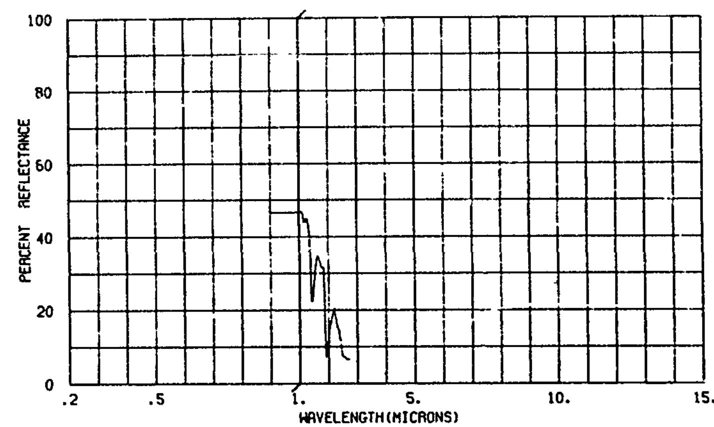

820000-441 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD COA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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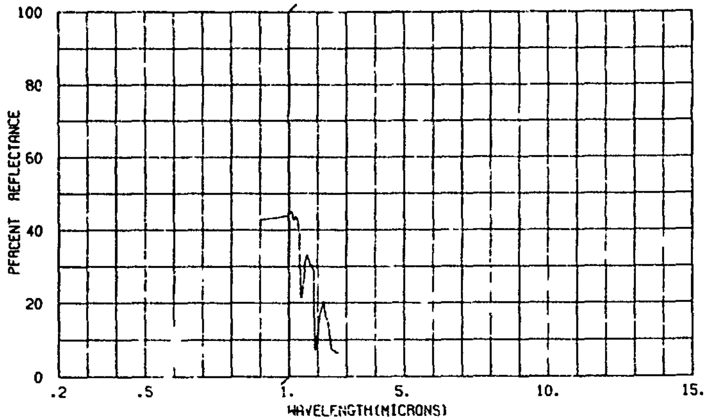

820000-442 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD COA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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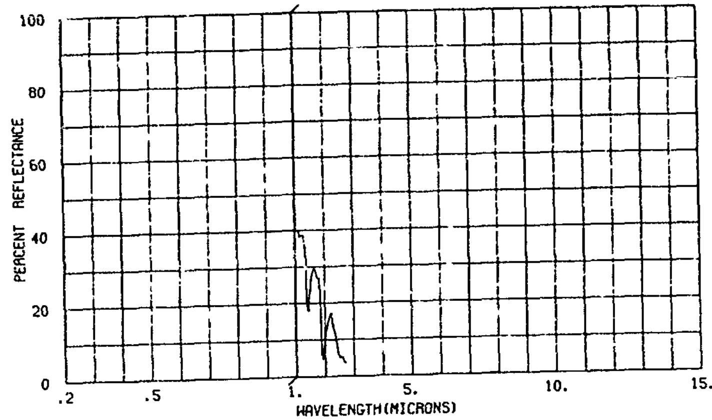

820000-443 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBG COA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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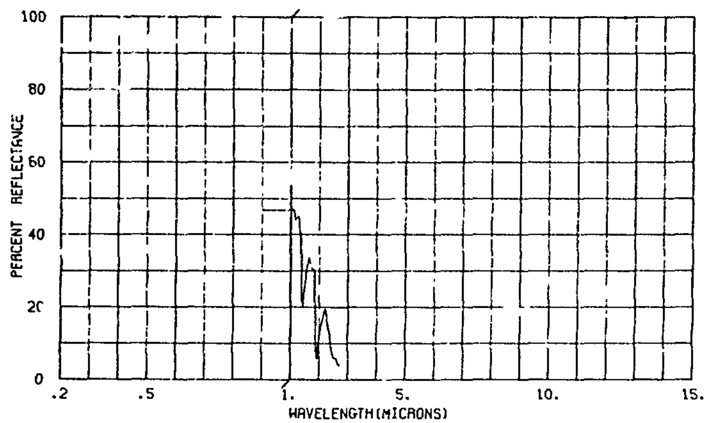
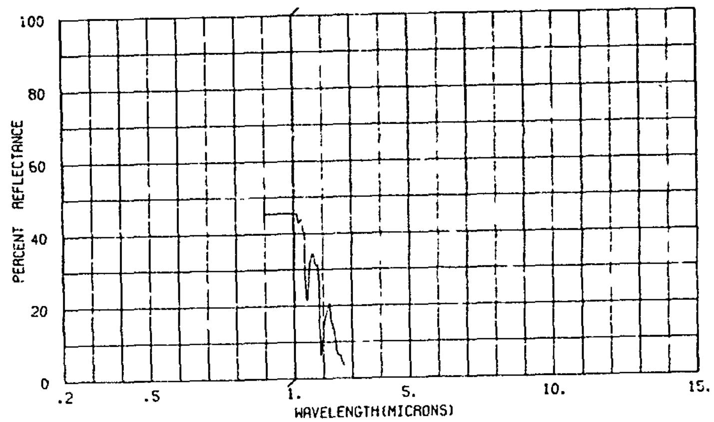


820000-444 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD COA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRP= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-445 BLACK OAK, UPPER LEAF SURFACE, BLEACHED.

SUBJECT CODES
BGDBC BGFBD BGFE CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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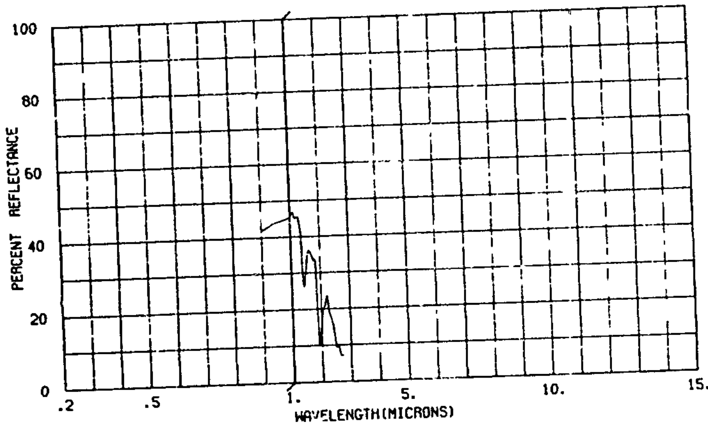

820000-446 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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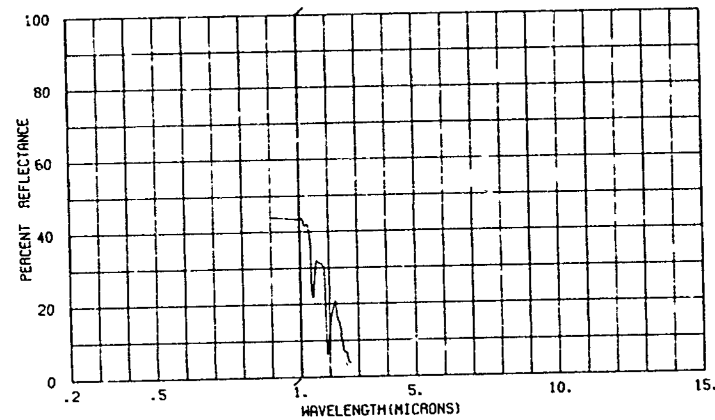
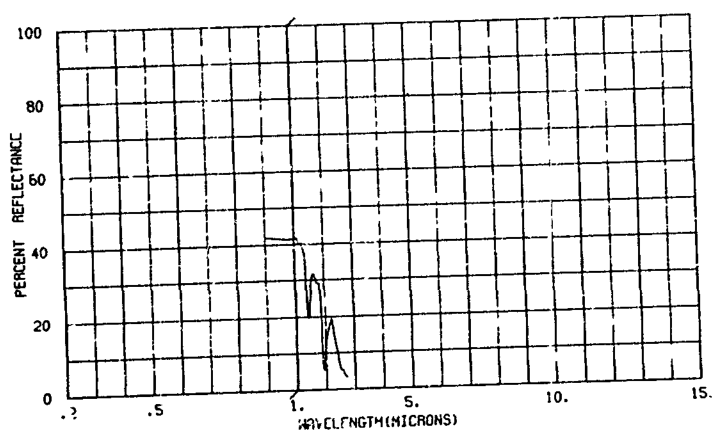


820000-447 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-448 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 42.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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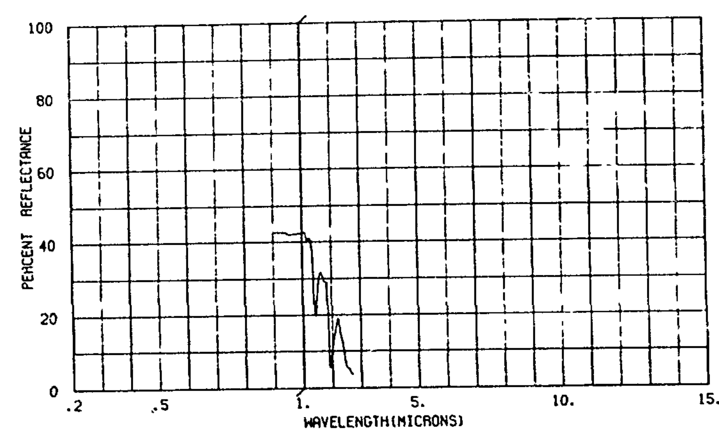
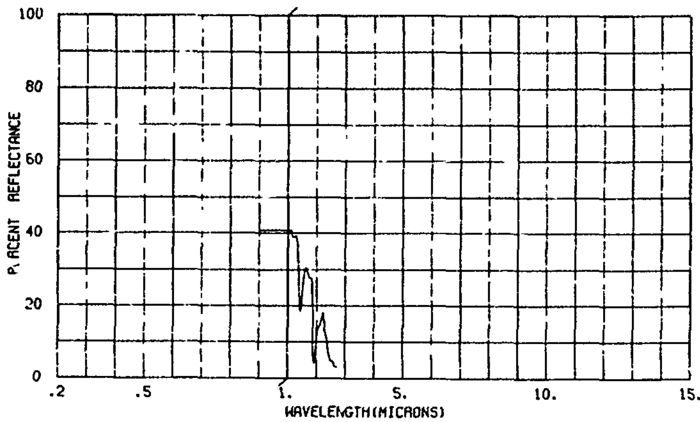


B20000-449 BLACK OAK, UPPER LEAF SURFACE, AFTER 10 HOURS EXPOSURE TO SUNLIGHT AND 24 HOURS OUTDOORS.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECCA ECCB

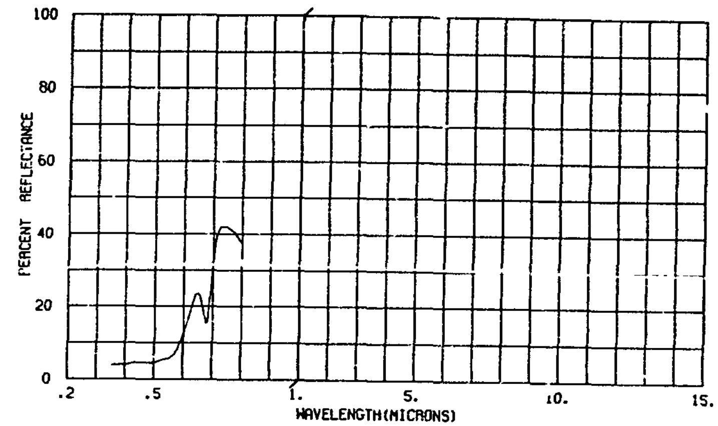
PARAMETER INFORMATION
DATE= 24 09 66 TIME= LAT= 47.3 N LONG= 83.7 W ALT= RANGE=
DAYS RE= 0001 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-465 BLACK OAK, UPPER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBD BGFE ECBBE CDA CED DFAA DFCE DK ECAD
ECB ECCA

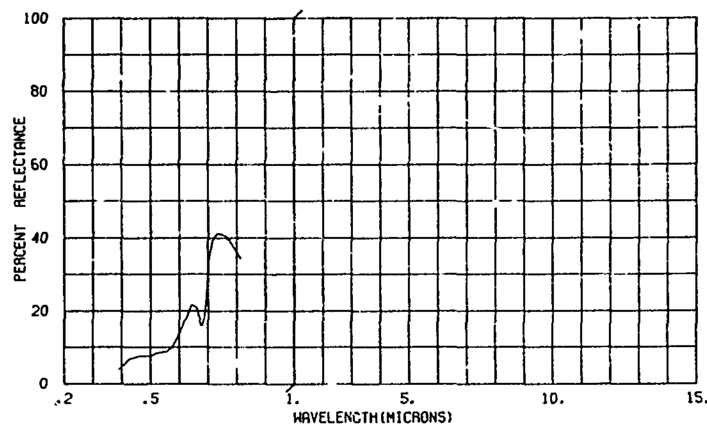
PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-466 BLACK OAK, LOWER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBC BGFE ECBBE CDA CED DFAA DFCE DK ECAD
ECB ECCA

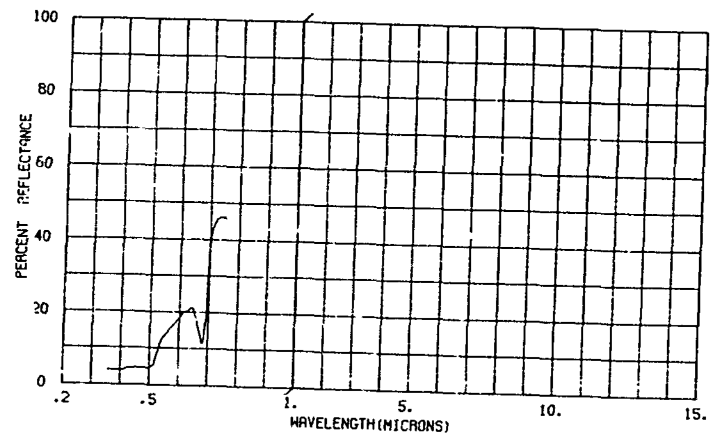
PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-471 OAK LEAF, BROWN WITH TRACES OF GREEN, UPPER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBD BGFE ECBBF CDA CED DFAA DFCE DK ECAD
ECB ECCA

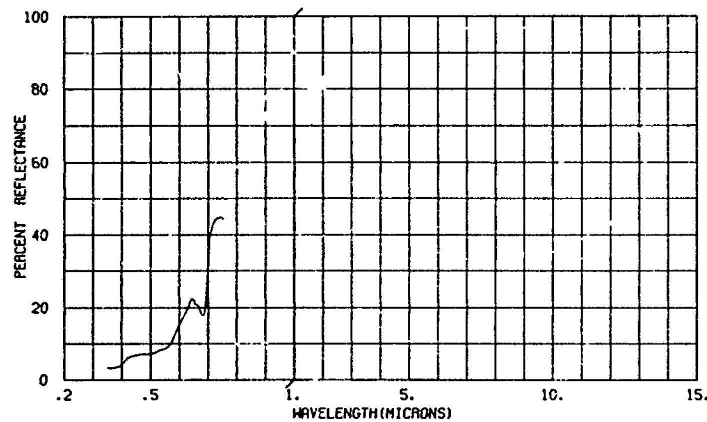
PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-472 OAK LEAF, BROWN WITH TRACES OF GREEN, LOWER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBC BGFE ECBBF CDA CED DFAA DFCE DK ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-473 OAK LEAF, BROWN WITH TRACES OF GREEN, UPPER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBD BGFE ECBBF CDA CED DFAA DFCE DK ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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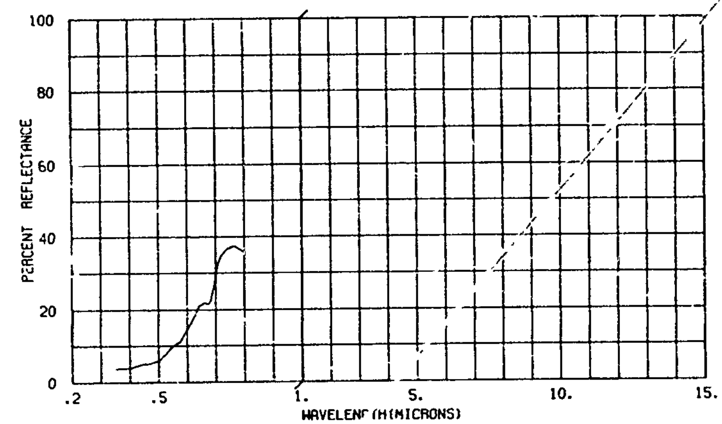

820000-474 OAK LEAF, BROWN WITH TRACES OF GREEN, LOWER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBC BGFE ECBBF CDA CED DFAA DFCE DK ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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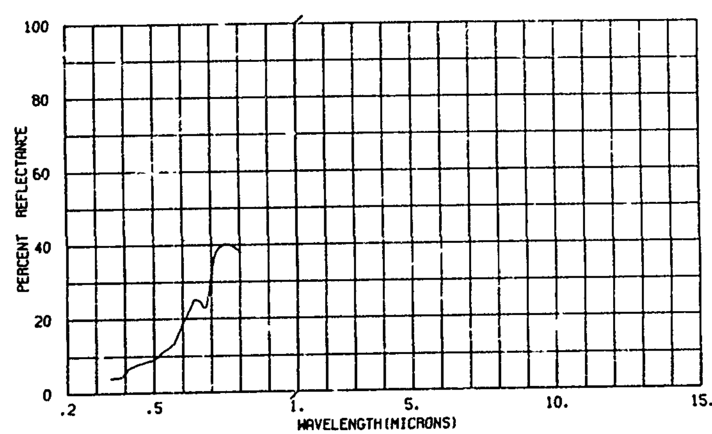

820000-543 RED OAK, OLD, UPPER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBD BGFE CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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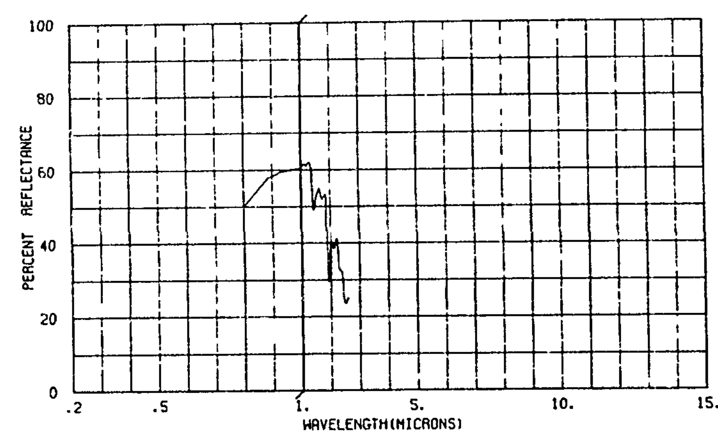

820000-544 RED OAK, OLD, LOWER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBC BGFE CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
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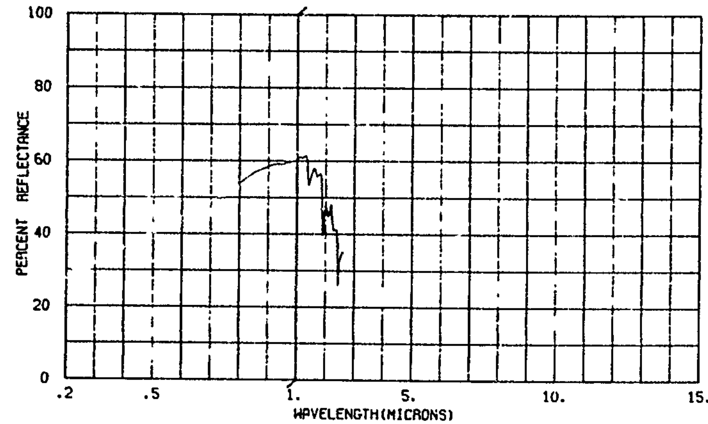
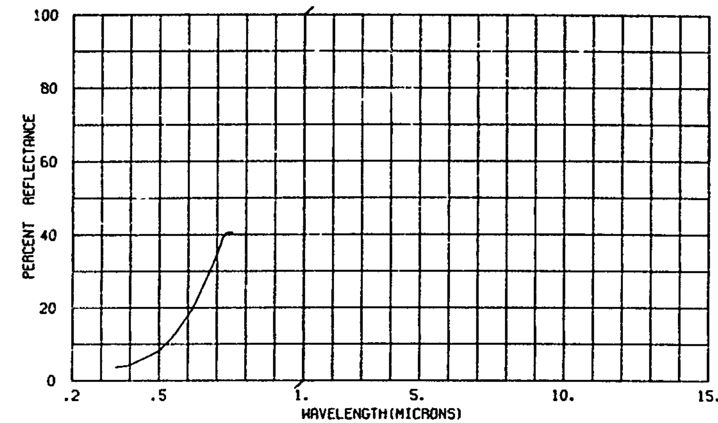


820000-551 RED OAK LEAF, UPPER LEAF SURFACE.

SUBJECT CODES
BGDBC BGFBD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-552 RED OAK LEAF, LOWER LEAF SURFACC.

SUBJECT CODES
BGDBC BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
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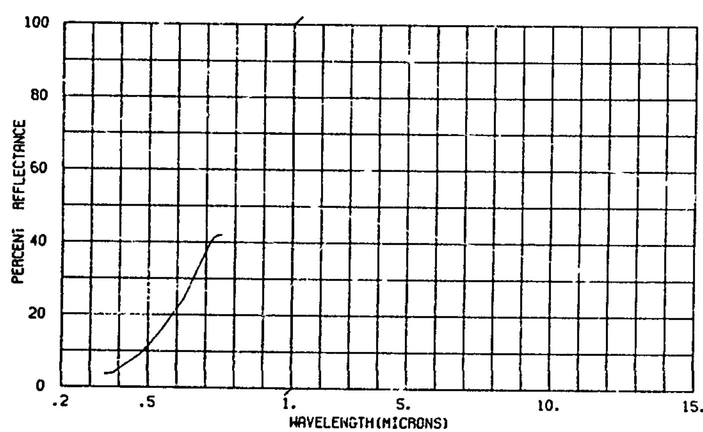
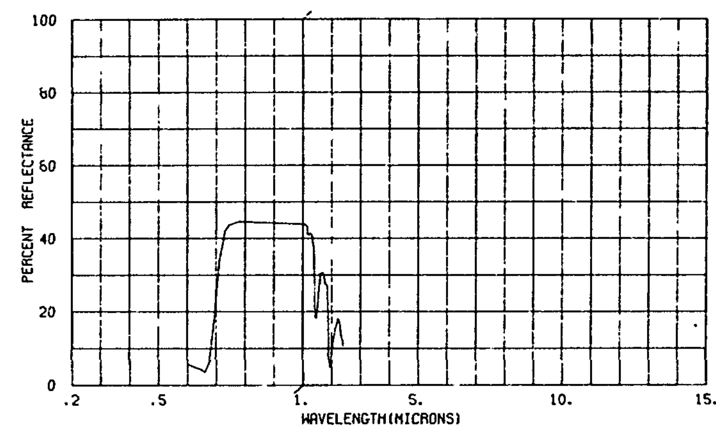
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-376 MAPLE, UPPER LEAF SURFACE, FRESHLY PICKED FROM BRANCH CUT FROM TREE 15 MINUTES.

SUBJECT CODES
BGDUA BGFBD CDA CED DFAA DFCE DK ECB ECCA ECCB

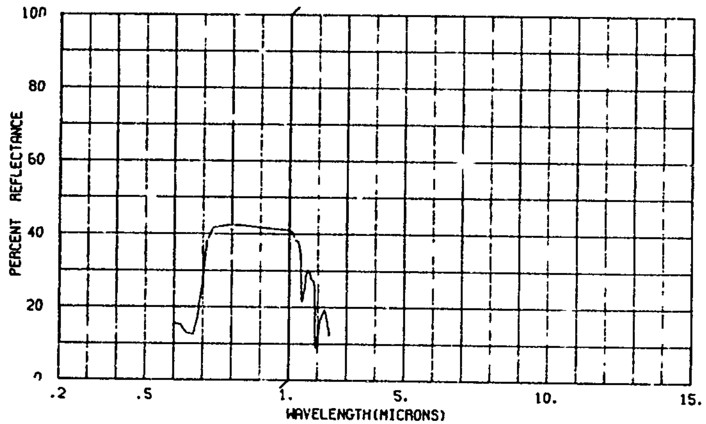
PARAMETER INFORMATION
DATE= 22 09 66 TIME= 1615 LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-377 MAPLE, LOWER LEAF SURFACE, FRESHLY PICKED FROM BRANCH CUT FROM TREE 15 MINUTES.

SUBJECT CODES
BGDUA BGFBC CDA CED DFAA DFCE DK ECB ECCA ECCB

PARAMETER INFORMATION
DATE= 22 09 66 TIME= 1615 LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= ITEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-378 MAPLE (A. SACHARUM), UPPER LEAF SURFACE, BRILLIANT RED DUE TO SEASONAL COLOR CHANGE, FRESHLY PICKED.

SUBJECT CODES
BGDUA BGFBD BGFE ECBBE CDA CED DFAA DFCE DK ECCA
ECCB

PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= ITEMP= WIND SP= WIND DI= CLD= VIS=
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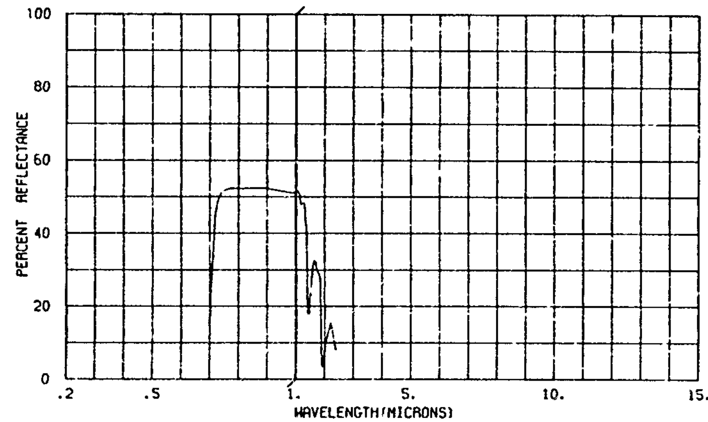
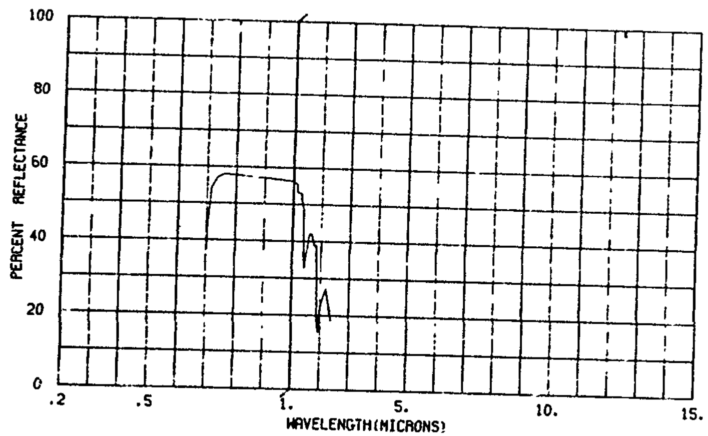


B20000-379 MAPLE (A. SACHARUM), UPPER LEAF SURFACE, BRILLIANT RED DUE TO SEASONAL COLOR CHANGE, FRESHLY PICKED.

SUBJECT CODES
BGDUA BG.3C BGFF FCBBE CDA CED DFAA DFCE DK ECCA
ECCB

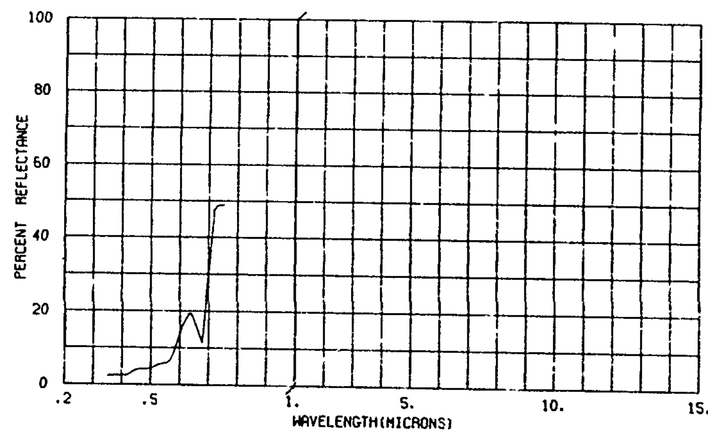
PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= ITEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-380 MAPLE (A. SACHARUM), UPPER LEAF SURFACE, BRILLIANT RED DUE TO SEASONAL COLOR CHANGE, FRESHLY PICKED.

SUBJECT CODES
BGDUA BGFBD ECBBE CDA CED DFAA DFCE DK FCAD ECB
ECCA

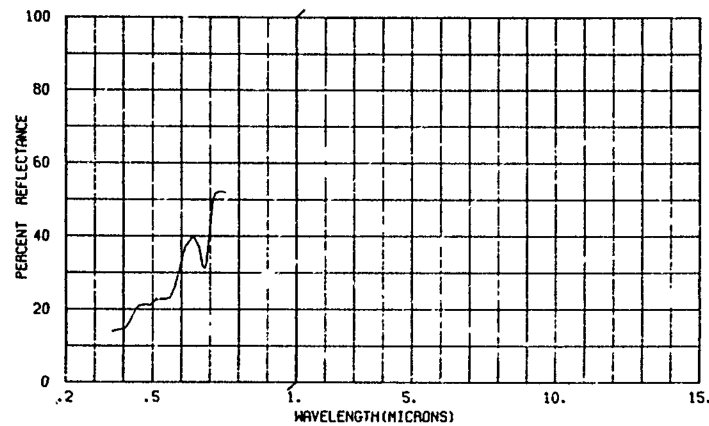
PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= ITEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-382 MAPLE (A. SACHARUM), LOWER LEAF SURFACE, NEAR TIP OF LEAF, BRILLIANT RED DUE TO SEASONAL COLOR CHANGE, FRESHLY PICKED.

SUBJECT CODES
BGDUA BGFBC ECBBE CDA CED DFAA DFCE DK ECAD ECB
ECCA

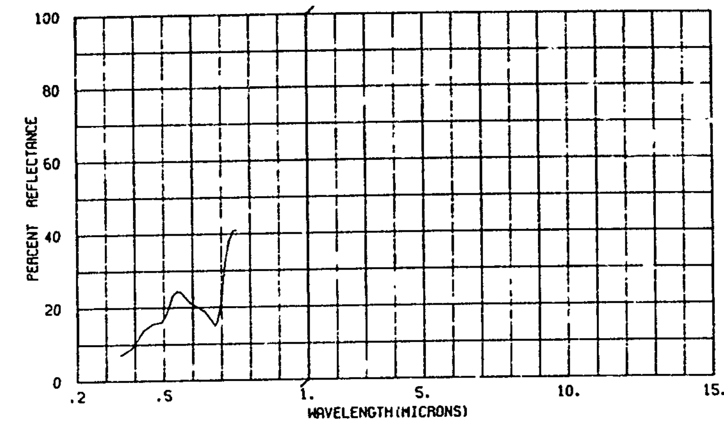
PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-383 OAK (Q. VELEUTINA), LOWER LEAF SURFACE, GREEN, FRESHLY PICKED.

SUBJECT CODES
BGDUA BGFBC CDA CED DFAA DFCE DK ECAD ECB ECCA

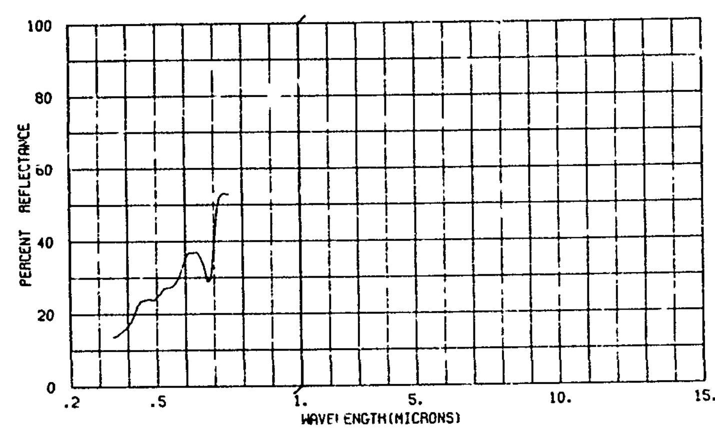
PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-384 MAPLE (A. SACHARUM), LOWER LEAF SURFACE, NEAR BASE OF LEAF, BRILLIANT RED DUE TO SEASONAL COLOR CHANGE, FRESHLY PICKED.

SUBJECT CODES
BGDUA BGFBC ECBBE CDA CED DFAA DFCE DK ECAD ECB
ECCA

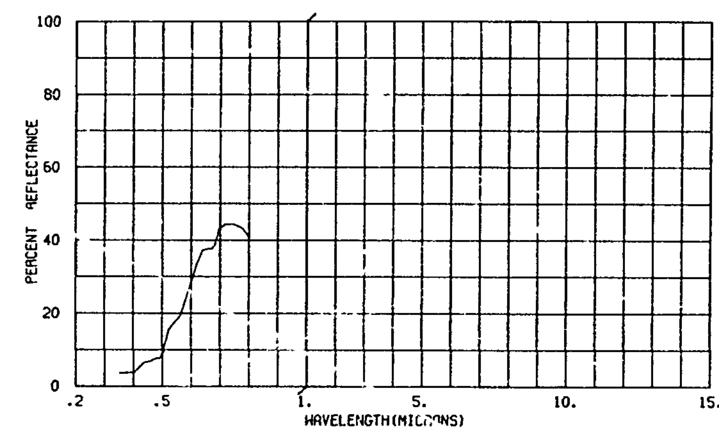
PARAMETER INFORMATION
DATE= 22 09 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-469 SUGAR MAPLE, UPPER LEAF SURFACE.

SUBJECT CODES
BGDUA BGFBD BGFE ECBBE CDA CED DFAA DFCE DK ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-470 SUGAR MAPLE, LOWER LEAF SURFACE.

SUBJECT CODES
BGDUA BGFBC BGFE ECBBE CDA CED DFAA DFLE DK ECAD
ECB ECCA ECAC

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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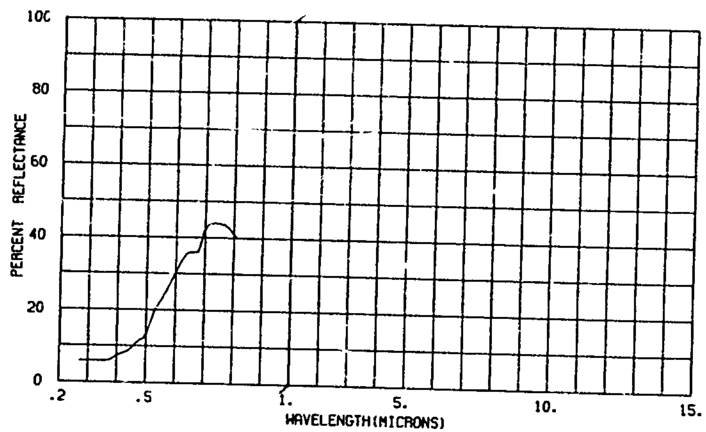

820000-539 RED CEDAR.

SUBJECT CODES
BGDXA BGFA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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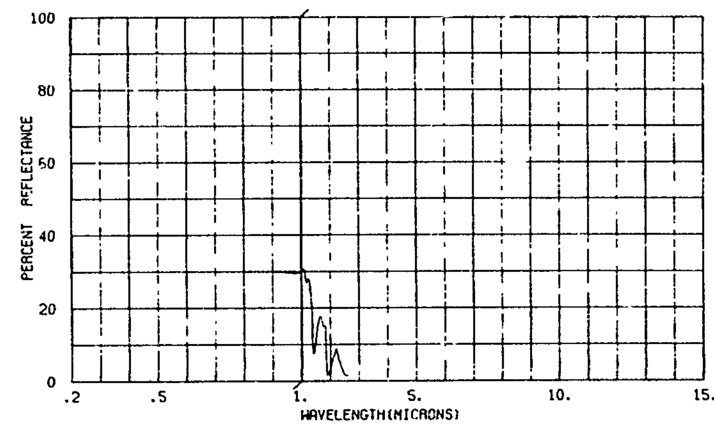
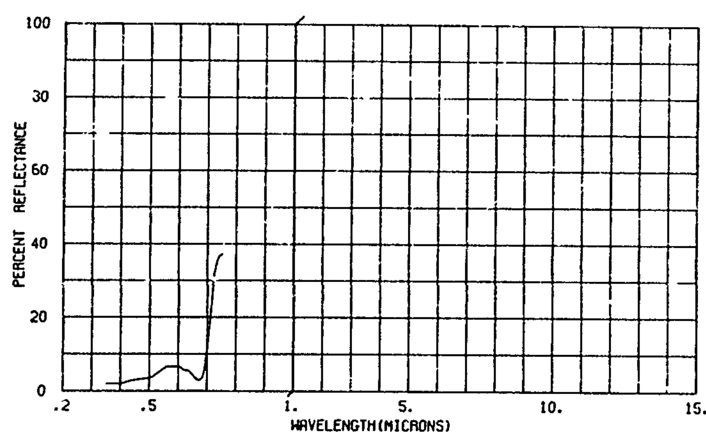


820000-549 RED CEDAR, JUNIPERIS VIRGINIANA.

SUBJECT CODES
BGDXA BGFA CDA CED DFAA DFCE DK ECAD ECA ECCA

PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-566 RED CEDAR FOLIAGE, MATURE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDXA BGFBC CDA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 30 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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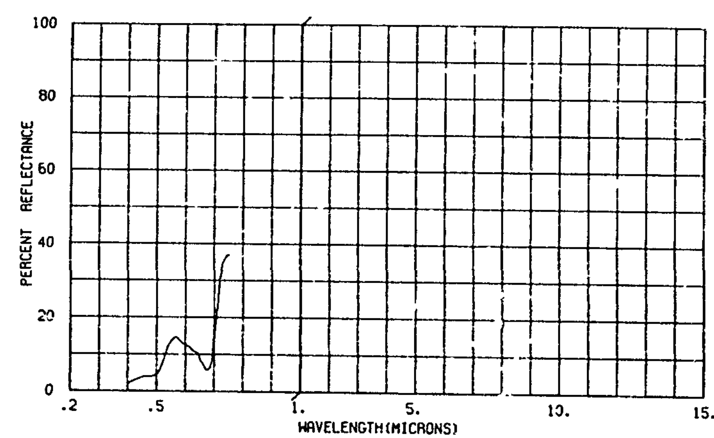

B20000-567 RED CEDAR FOLIAGE, MATURE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDXA BGFBD CDA CFD DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 30 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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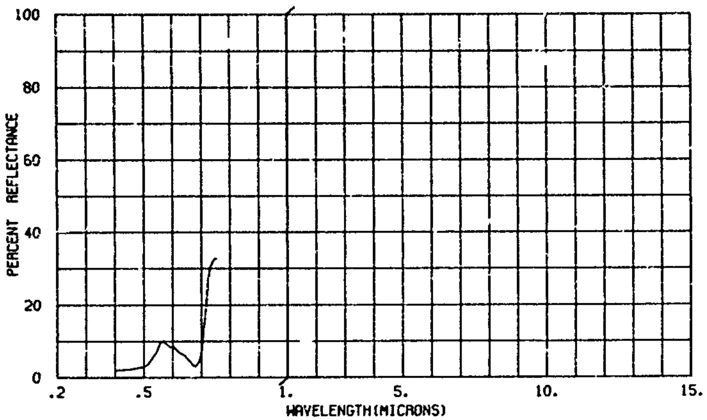

B20000-568 RED CEDAR FOLIAGE, MATURE, SHORTLY AFTER PICKING.

SUBJECT CODES
HGDXA BGFBC CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 30 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR=
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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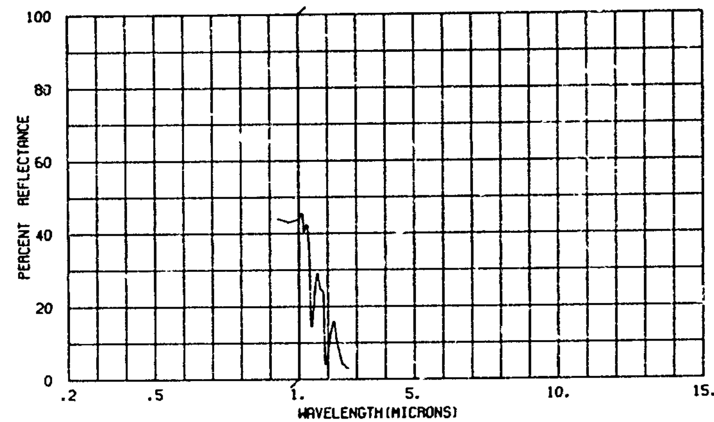

B20000-569 RED CEDAR FOLIAGE, MATURE, SHORTLY AFTER PICKING.

SUBJECT CODES
BGDXA BGFBD LDA CEE DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 30 01 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
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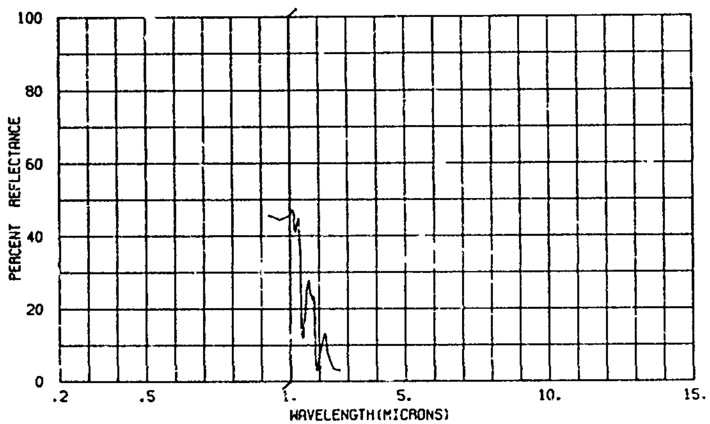

B20000-517 SCOTCH PINE, TWIG AND NEEDLES.

SUBJECT CODES
BGDXE BGFA BGH CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 22 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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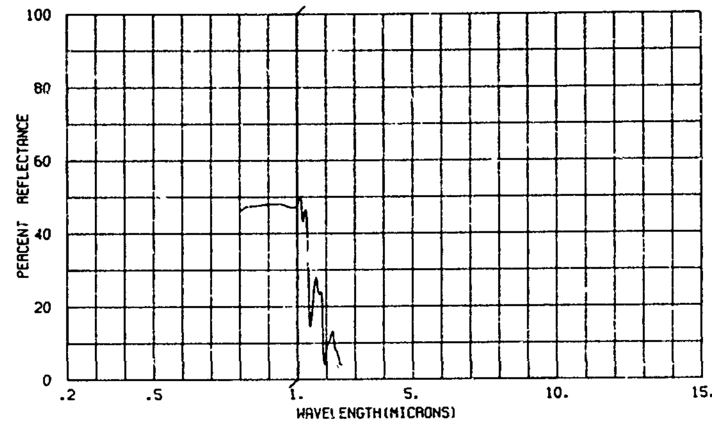
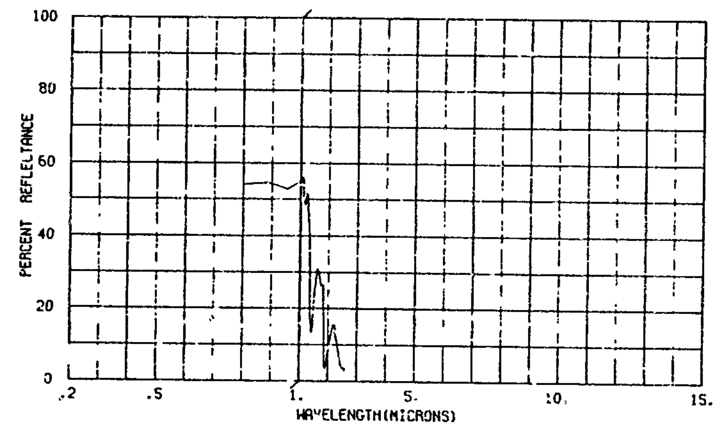


820000-540 WHITE PINE.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECCA ECCB

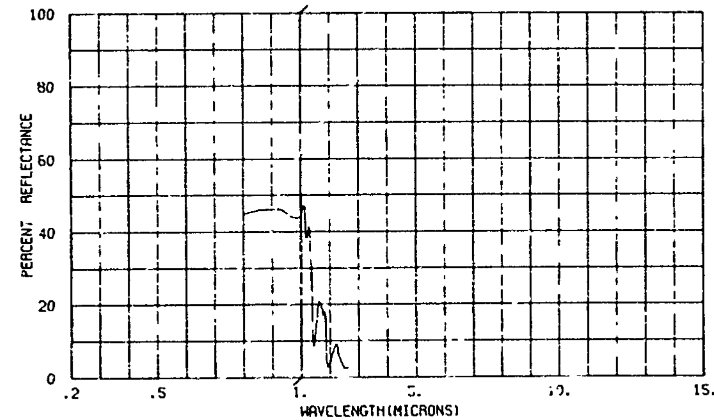
PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-541 SCOTCH PINE.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-542 RED PINE.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 10 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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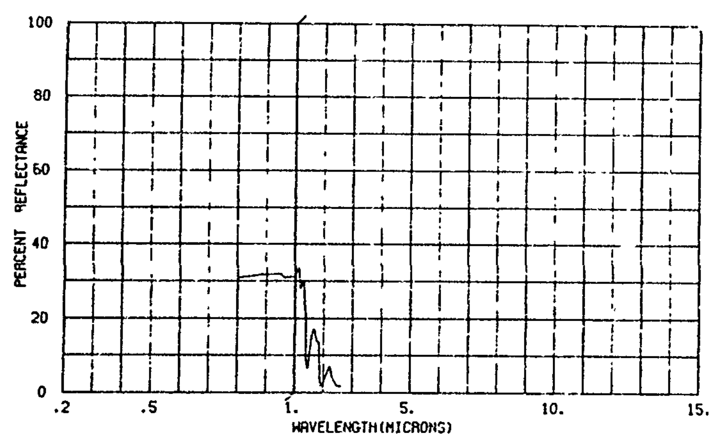
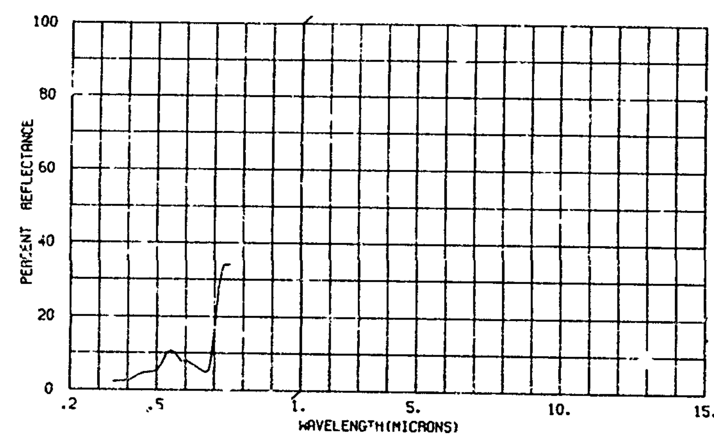


820000-547 SCOTCH PINE, PINUS SYLVESTRIS.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECAD ECB ECCA

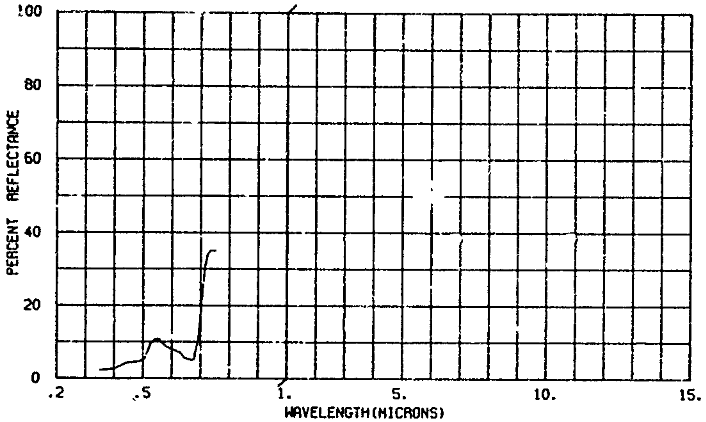
PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-548 RED PINE, PINUS RESINOSA.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECAD ECB ECCA

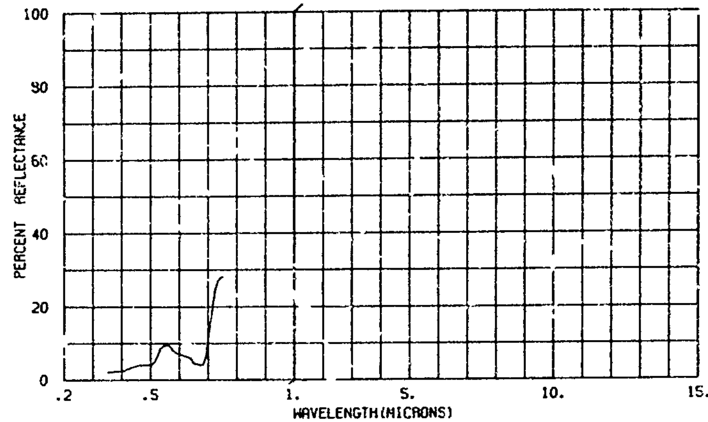
PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-550 WHITE PINE, PINUS STROBUS.

SUBJECT CODES
BGDXE BGFA CDA CED DFAA DFCE DK ECAD ECB ECCA

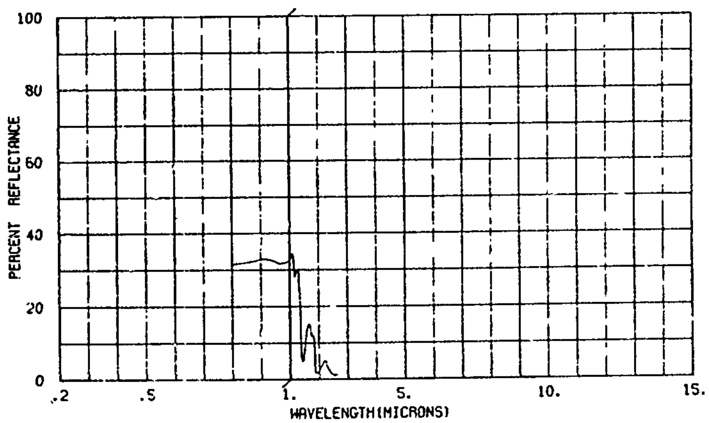
PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-545 BLUE SPRUCE, NEEDLES.

SUBJECT CODES
BGDXF BGFA BGFE CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-546 RED SPRUCE, NEEDLES.

SUBJECT CODES
BGDXF BGFA BGFC CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 18 01 67 TIME= LAT= 42.3 N LONG= 83.8 W ALT= RANGE=
DAYS RE= 0002 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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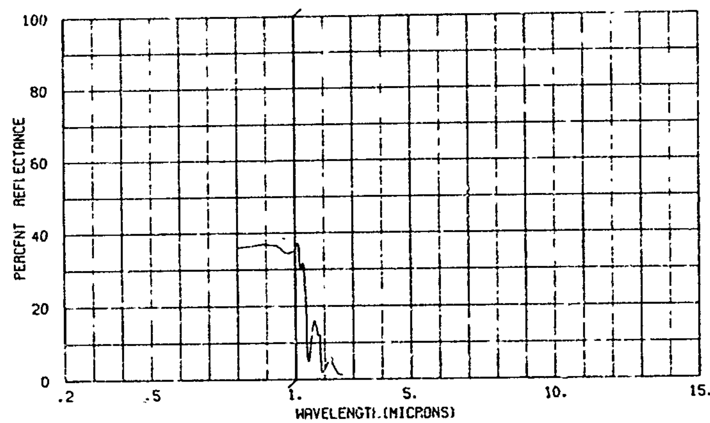

820000-553 BLUE SPRUCE.

SUBJECT CODES
BGDXF BGFA CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 23 01 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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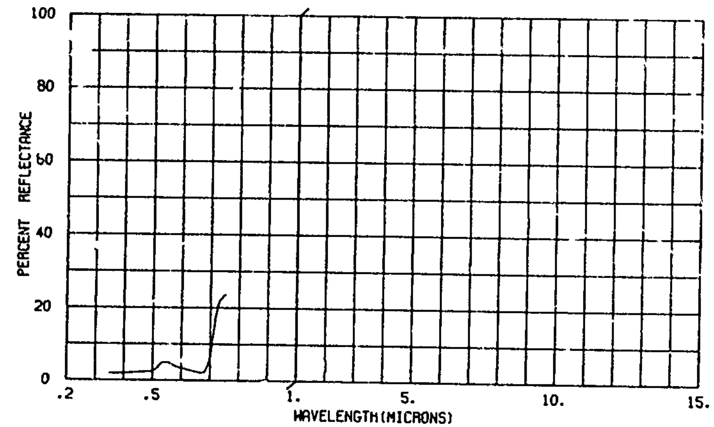
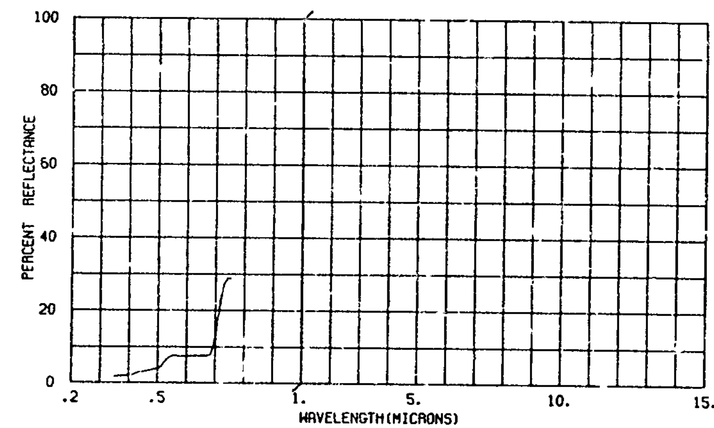


82000C-554 RED SPRUCE.

SUBJECT CODES
BGDXF BGFA CDA CED DFAA DFCE DK ECAD ECB ECCA

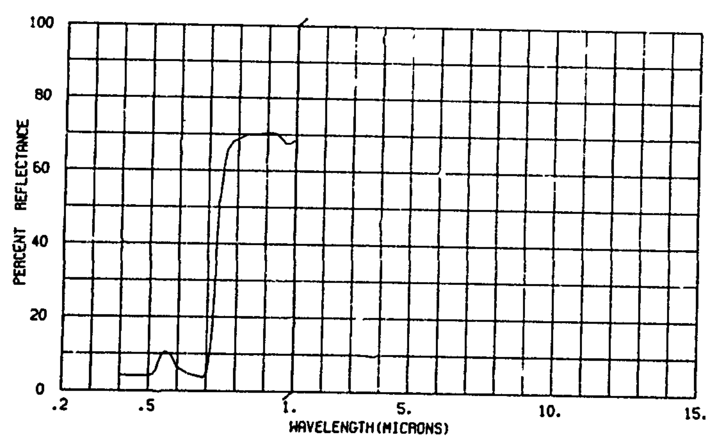
PARAMETER INFORMATION
DATE= 23 C1 67 TIME= LAT= 42.4 N LONG= 85.9 W ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820001-313 SYCAMORE LEAVES, FRESHLY PICKED, 4 LEAVES THICK, UPPER LEAF SURFACE.

SUBJECT CODES
BGDYA BGFBD CDA CED DFAA DFCE DK ECB ECCA

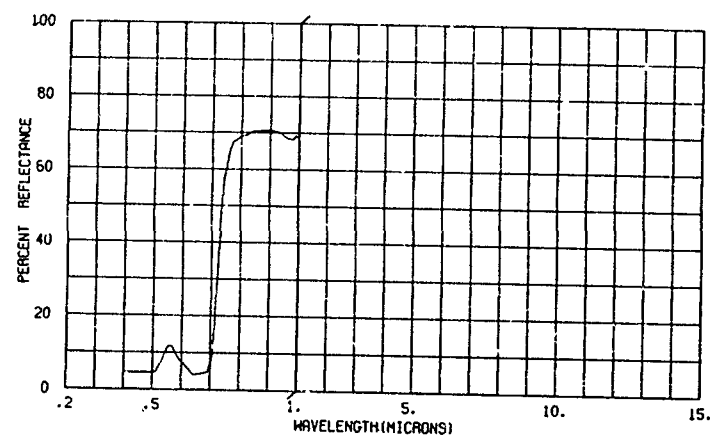
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820901-319 SYCAMORE LEAVES, FRESHLY PICKED, 4 LEAVES THICK, UPPER LEAF SURFACE.

SUBJECT CODES
BGDYA BGFLD CDA CED DFAA DFCE DK ECB ECCA

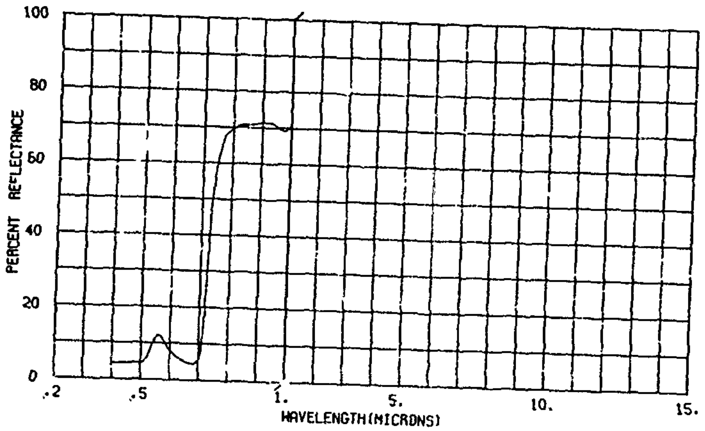
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-325 SYCAMORE LEAVES, FRESHLY PICKED, 4 LEAVES THICK, UPPER LEAF SURFACE.

SUBJECT CODES
BGDYA BGFBD CDA CED DFAA DFCE DK ECB ECCA

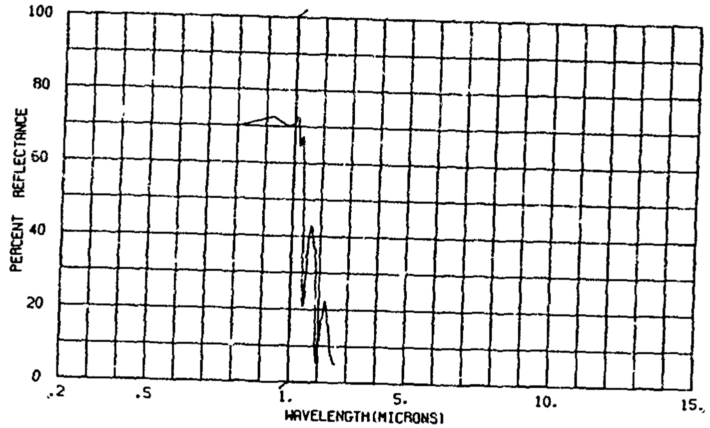
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-331 4 FRESH SYCAMORE LEAVES.

SUBJECT CODES
BGDYA BGFBD CDA CED DFAA DFCE DK ECCA ECCB

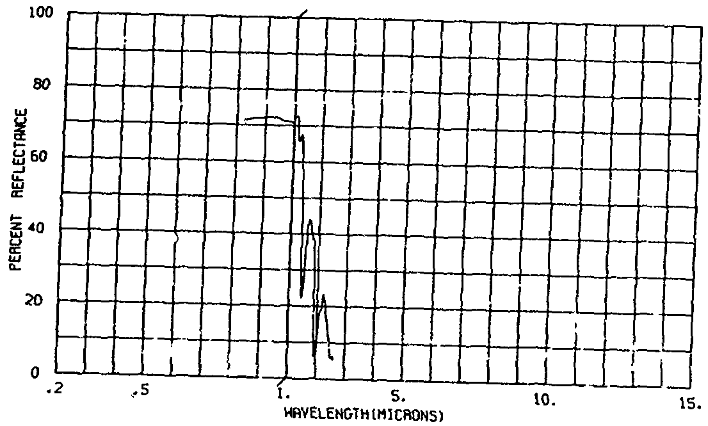
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20001-337 4 FRESH SYCAMORE LEAVES.

SUBJECT CODES
BGDYA BGFBD CDA CED DFAA DFCE DK ECCA ECCB

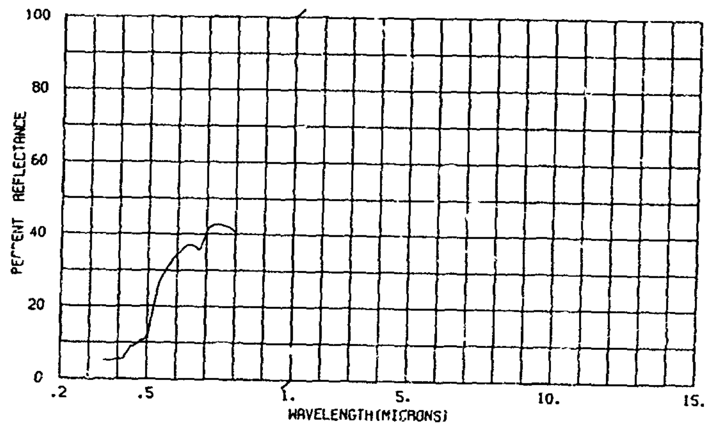
PARAMETER INFORMATION
DATE= 09 08 67 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= 0000 IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-467 COTTONWOOD, UPPER LEAF SURFACE.

SUBJECT CODES
BGEFB BGFBD BGFE ECBBE CDA CED DFAA DFCE DK ECAD
ECB ECCA

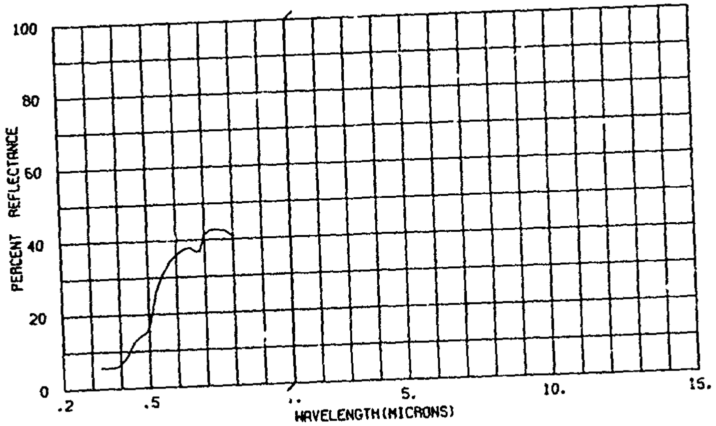
PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-448 COTTONWOOD, LOWER LEAF SURFACE.

SUBJECT CODES
BGEFB BGFBC BGFE ECBBE CDA CED DFAA DFCE DK ECAD
ECB ECCA

PARAMETER INFORMATION
DATE= 25 10 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001

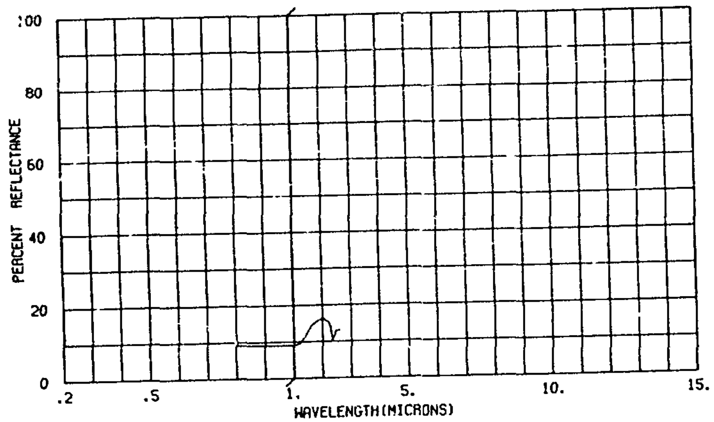


BGD 409

B20000-476 FINE GRAINED DIABASE (DOLERITE). AN IGNEOUS ROCK COMPOSED OF PLAGIOCLASE AND HORNBLEND. SAMPLE NO. 260.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

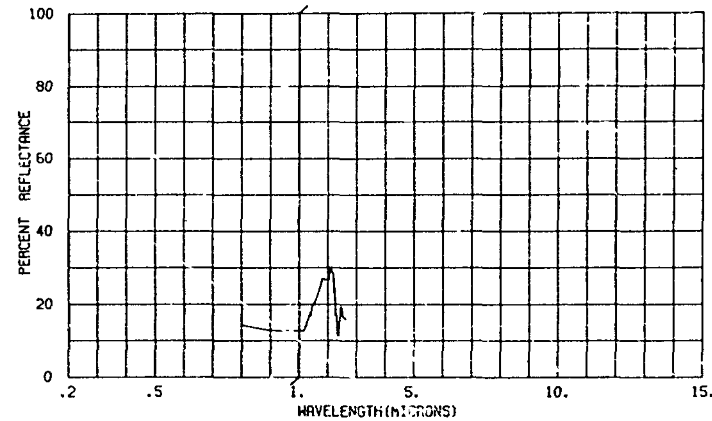
PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-477 GRAY-GREEN LAVA BASALT. SAMPLE NO. 261.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



B20000-478 COARSE GRAINED DIORITE. AN IGNEOUS ROCK COMPOSED OF PLAGIOCLASE, BIOTITE, AND HORNBLEND. SAMPLE NO. 262.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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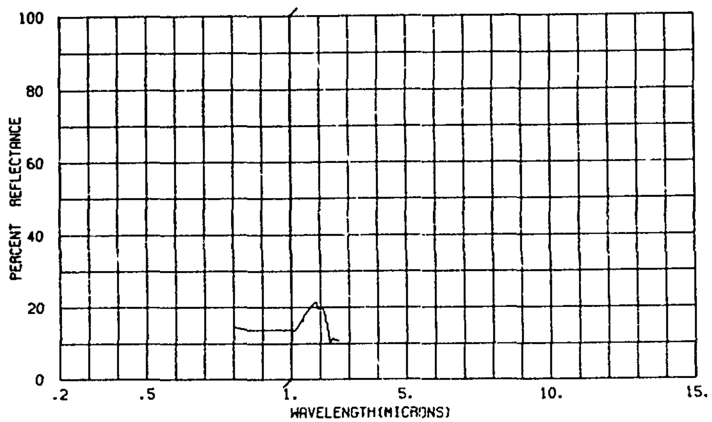
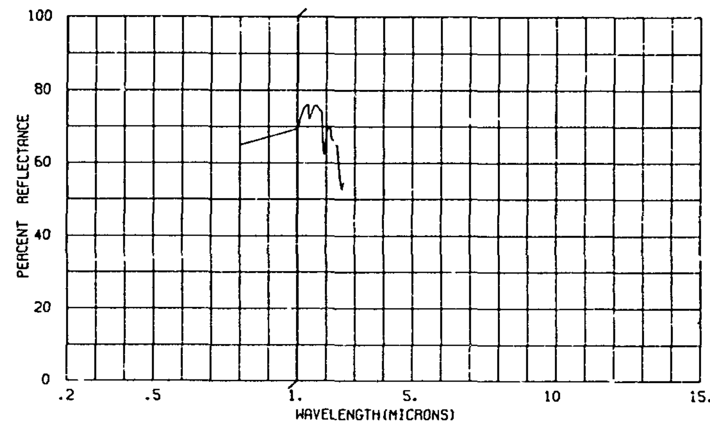


B20000-479 GRAY AND WHITE CHERT. A CHEMICALLY PRECIPITATED SEDIMENTARY ROCK OF SILICON DIOXIDE. SAMPLE NO. 263.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 09 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-480 LIGHT GRAY LIMESTONE. A FINE GRAINED SEDIMENTARY ROCK COMPOSED OF CALCITE (CALCIUM CARBONATE). SAMPLE NO. 264.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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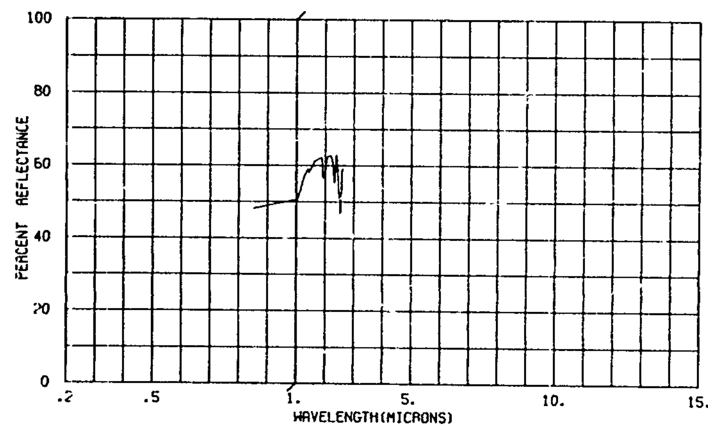
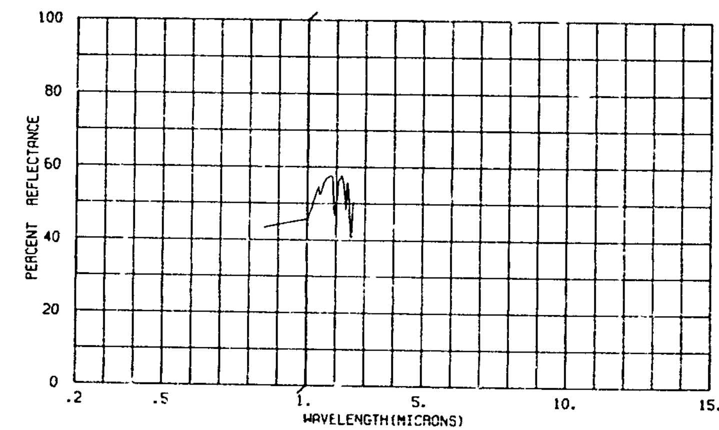


820000-481 LIGHT GRAY LIMESTONE. A FINE GRAINED SEDIMENTARY ROCK COMPOSED OF CALCITE (CALCIUM CARBONATE). SAMPLE NO. 264.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

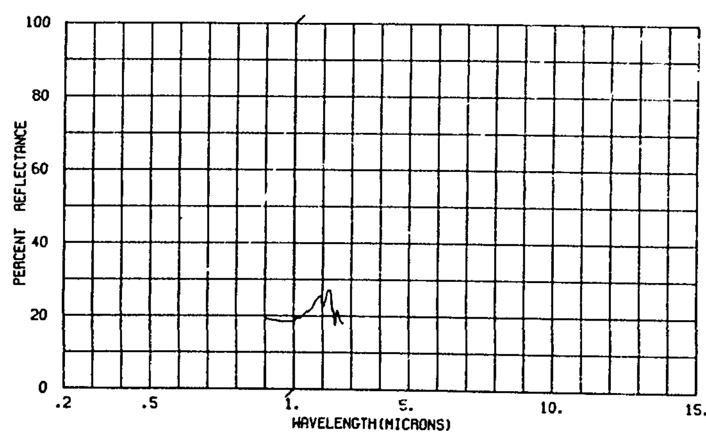
PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-482 COURSE GRAINED GRANITE. AN IGNEOUS ROCK COMPOSED OF LARGE CRYSTALS OF QUARTZ, FELDSPAR, AND HORNBLEND. SAMPLE NO. 256.

SUBJECT CODES
BFHD ECBBE CDA DFAA DFCE DK ECCA ECCB

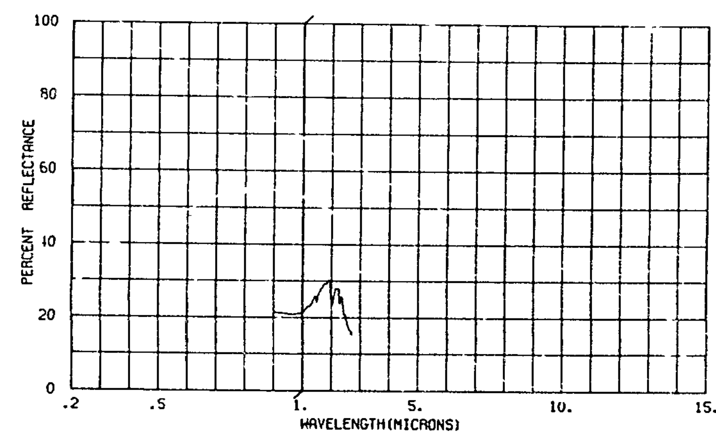
PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-483 MEDIUM GRAINED GRANITE. AN IGNEOUS ROCK COMPOSED OF QUARTZ, FELDSPAR, BIOTITE, MUSCOVITE, AND HORNBLEND. SAMPLE NO. 257

SUBJECT CODES
BFHD ECBBE CDA DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
TEMP= DEW PT N AVE= 001



820000-484 MEDIUM GRAINED VERY WEATHERED GRANITE. AN IGNEOUS ROCK COMPOSED OF QUARTZ, FELDSPAR, BIOTITE, MUSCOVITE, AND [redacted] SAMPLE NO. 258.

SUBJECT CODES
BFHD ECBBE CDA DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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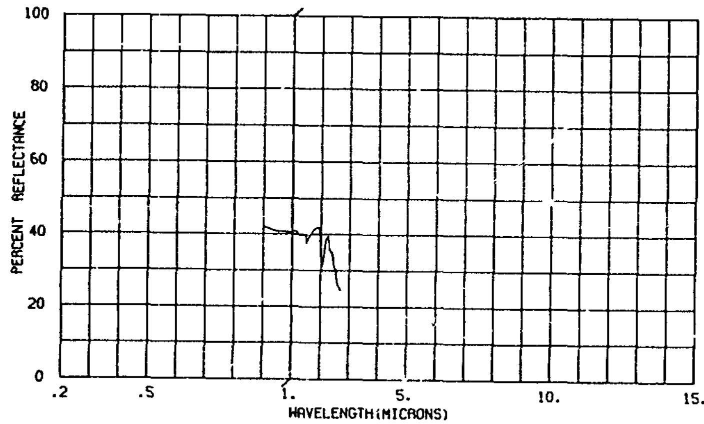

820000-485 COURSE GRAINED WEATHERED GRANITE. AN IGNEOUS ROCK COMPOSED OF QUARTZ, FELDSPAR, BIOTITE, AND HORNBLEND. SAMPLE NO. 259.

SUBJECT CODES
BFHD ECBBE CDA DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 08 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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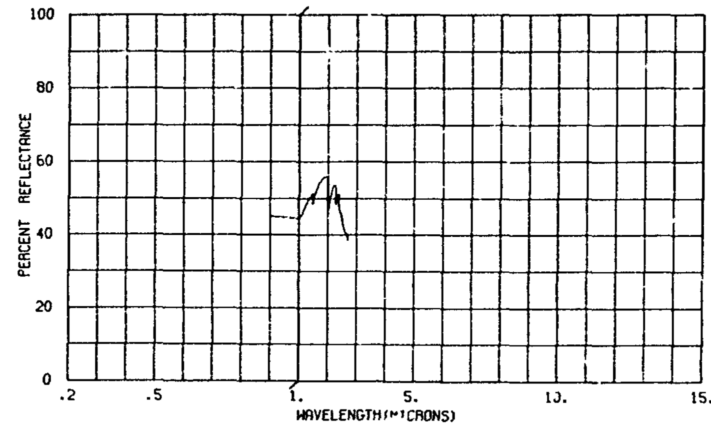

820000-486 GRAY-PINK CHERT. A CHEMICALLY PRECIPITATED SEDIMENTARY ROCK OF SILICON DIOXIDE. SAMPLE NO. 269.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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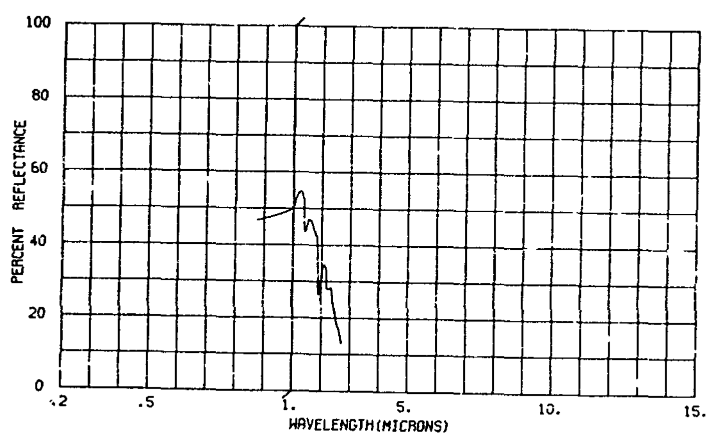

820000-487 RED-BROWN SANDSTONE. A FINE GRAINED SEDIMENTARY ROCK OF SILICON DIOXIDE. SAMPLE NO. 270.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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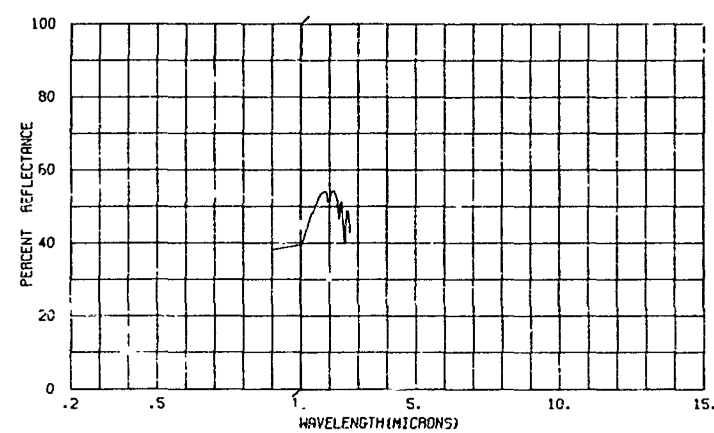

820000-488 SILTSTONE.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
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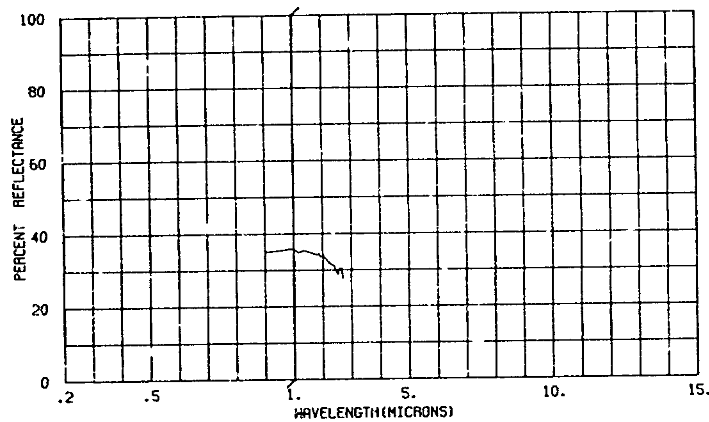

820000-489 FELSITE, VEINED BY QUARTZ.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
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DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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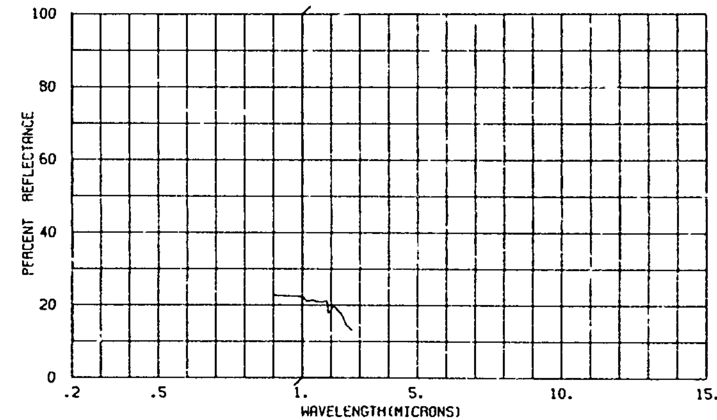

820000-490 QUARTZITE.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
DATE= 12 12 66 TIME= LAT= LONG= ALT= RANGE=
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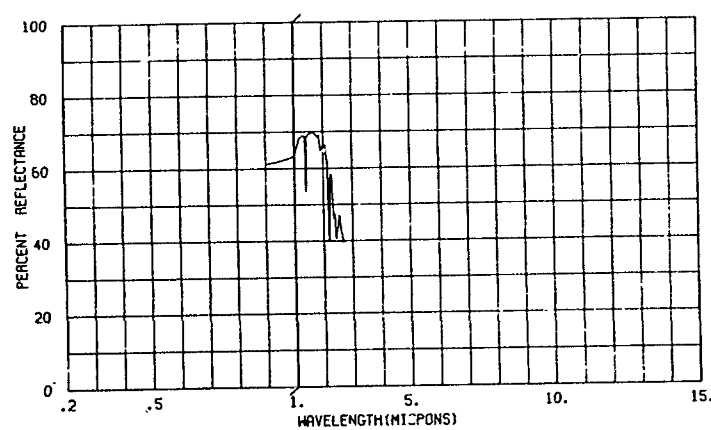

820000-491 CORAL.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECCA ECCB

PARAMETER INFORMATION
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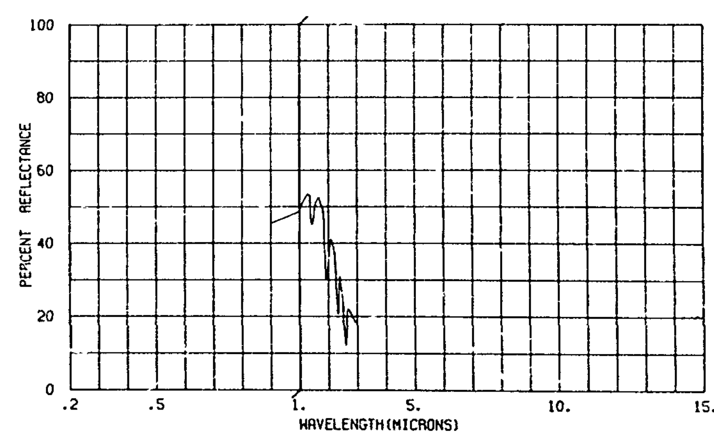

B20000-492 GRAY-PINK CHERT. A CHEMICALLY PRECIPITATED SEDIMENTARY ROCK OF SILICON DIOXIDE. SAMPLE NO. 269.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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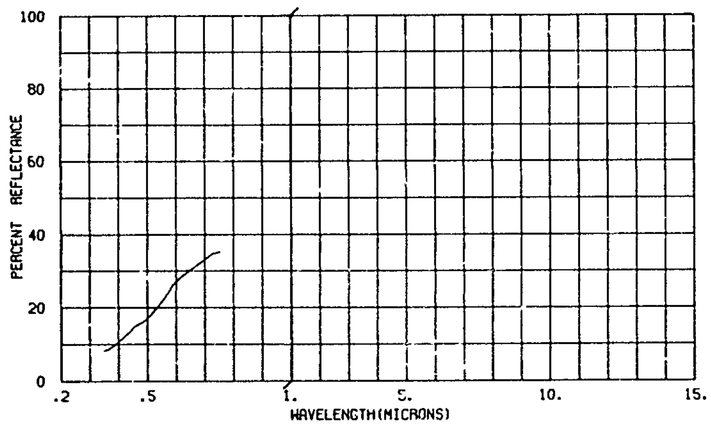

B20000-493 GRAY-PINK CHERT. A CHEMICALLY PRECIPITATED SEDIMENTAFY ROCK OF SILICON DIOXIDE. SAMPLE NO. 269.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 1' 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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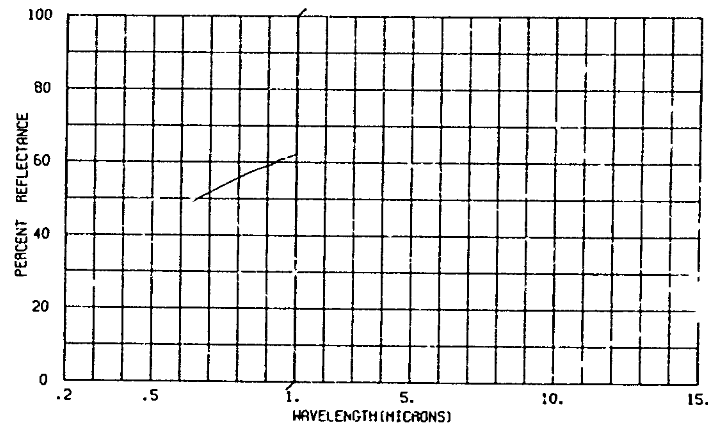

B20000-494 LIMESTONE, WEATHERED.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS FE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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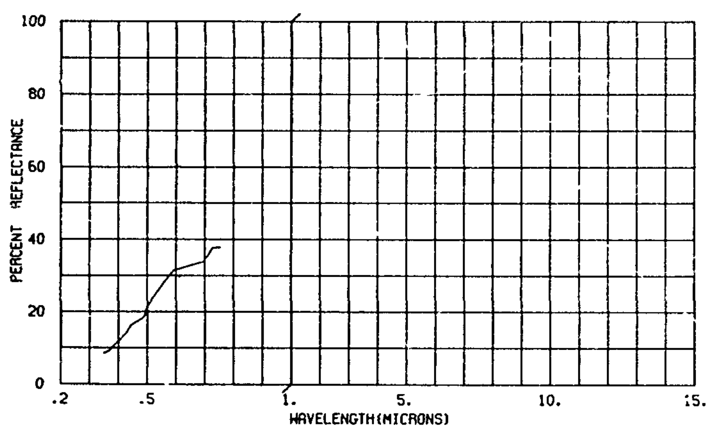

B20000-495 LIMESTONE, WEATHERED.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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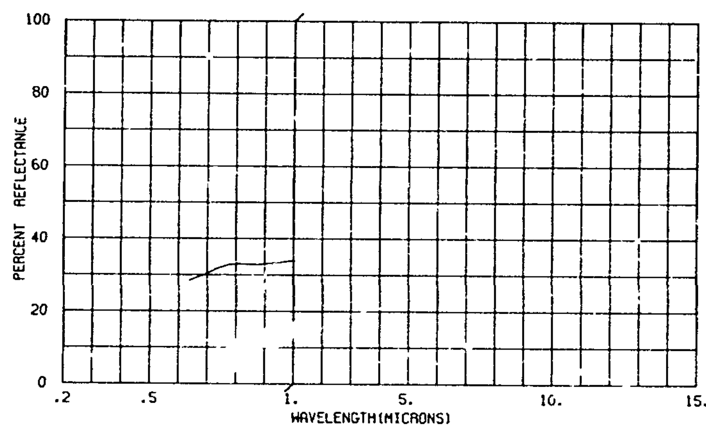

820000-496 GREENSTONE, ALTERED BASALT.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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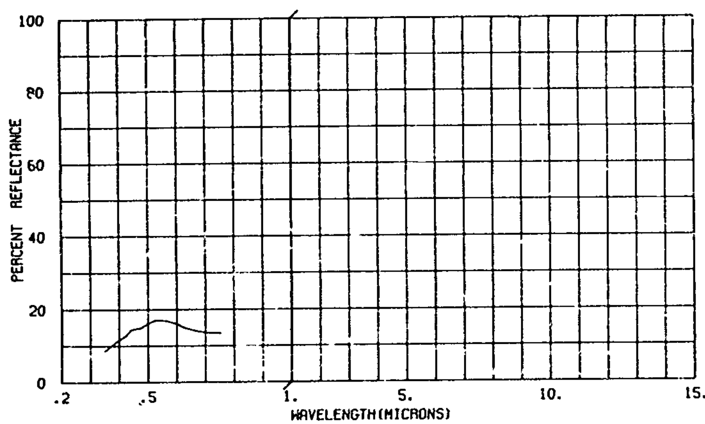

820000-497 GABBRO.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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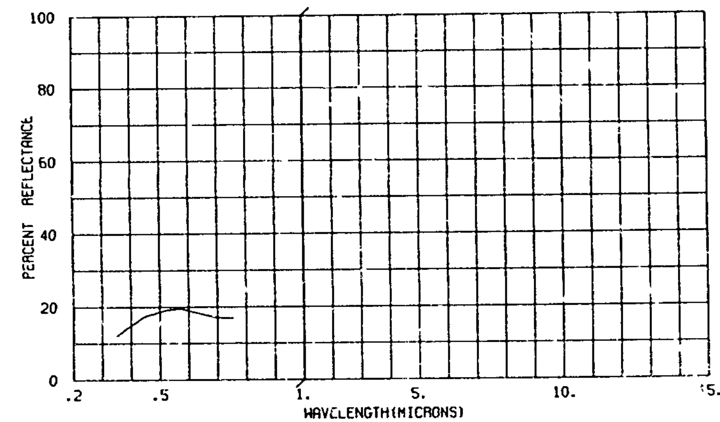

820000-498 CHERT.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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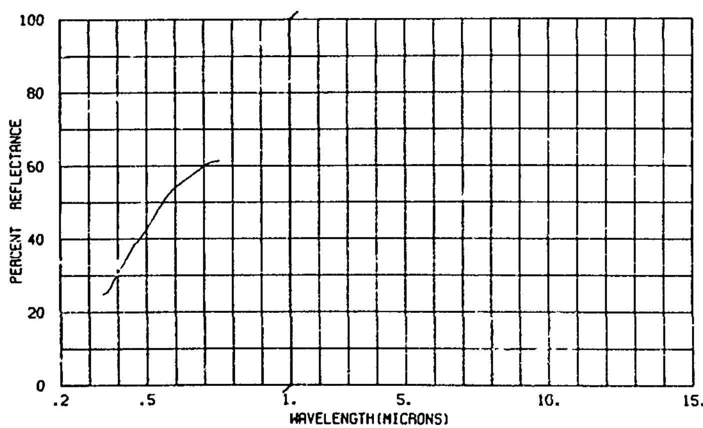

820000-499 SILTSTONE.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
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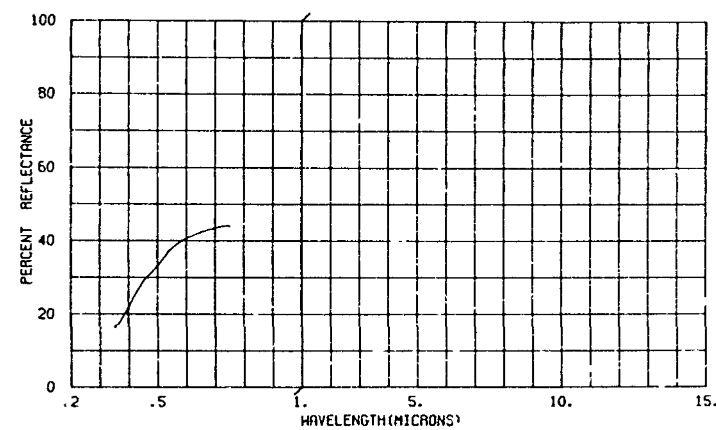

B20000-500 PORPHYRYTIC (SYENITE-MONZONITE).

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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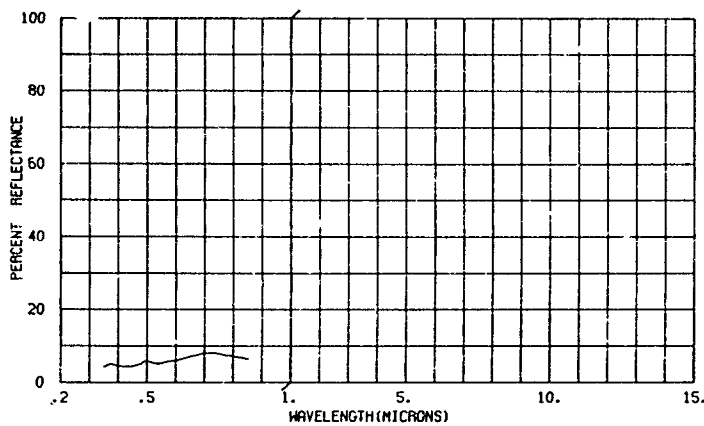

B70000-501 GRANITE, MEDIUM GRAINED.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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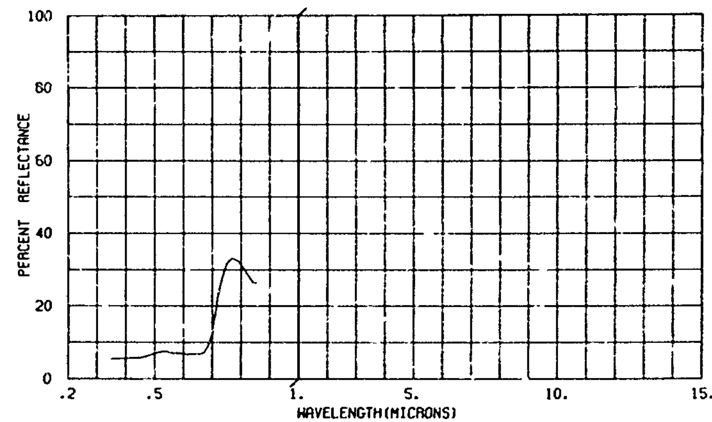

B20000-502 DIORITE, WEATHERED.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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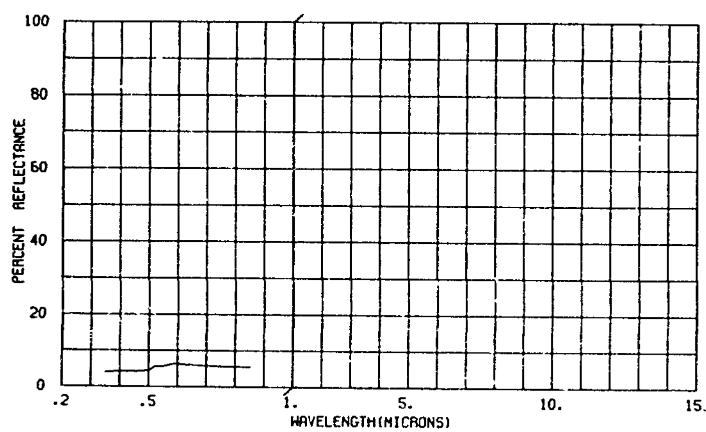

B20000-503 PROPHRYTIC (SYENITE MONZONITE).

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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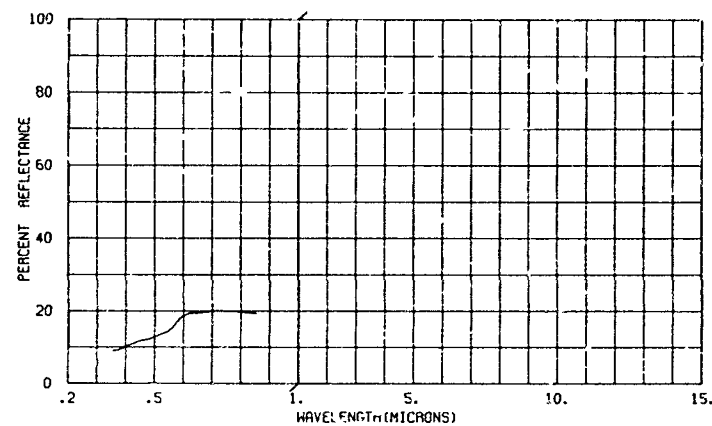

820000-504 GRANITE, MEDIUM GRAINED.

SUBJECT CODES
BFHD CCA CED CFAA CFCE CK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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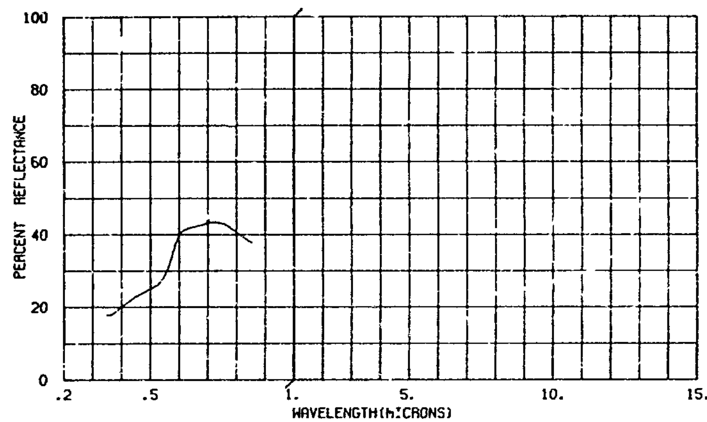

820000-505 DIORITE, WEATHERED.

SUBJECT CODES
BFHC CCA CED CFAA CFCE CK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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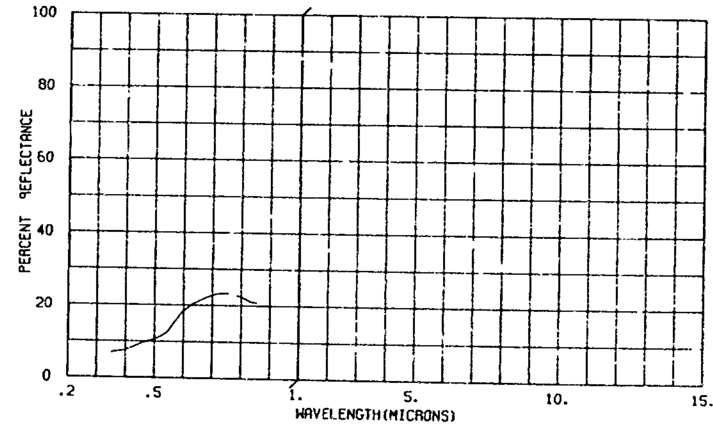

820000-506 GRANITE PEBBLE, WEATHERED.

SUBJECT CODES
BFHC CCA CED CFAA CFCF CK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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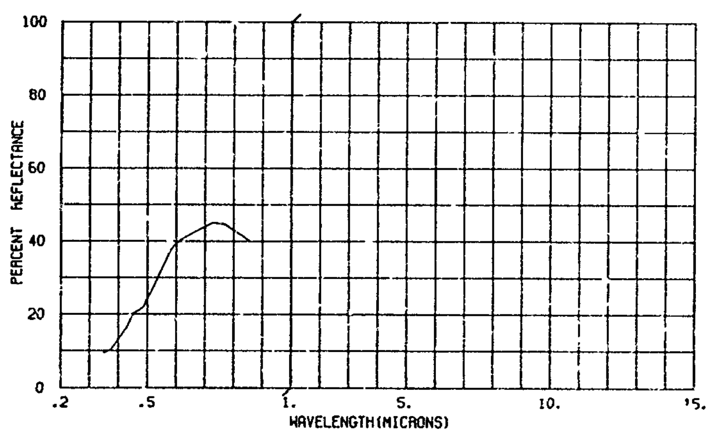

820000-507 FINE GRAINED DIABASE (DOLERYTE). AN IGNEOUS ROCK COMPOSED OF PLAGIOCLASE AND HORNBLEND. SAMPLE NO. 260.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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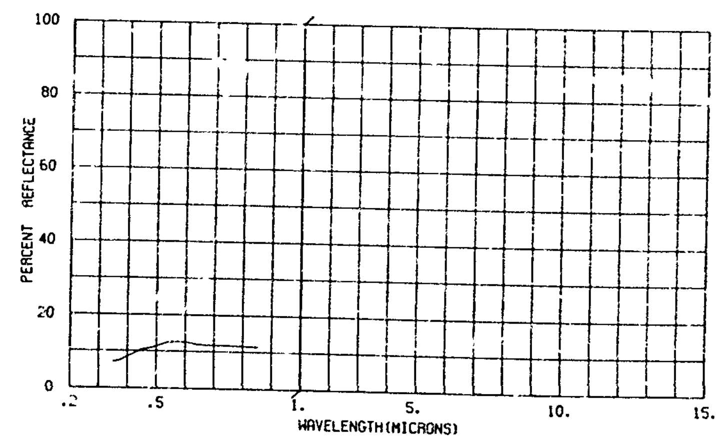

B20000-508 SILTSTONE.

SUBJECT CODES
BFHC CDA CED DFAA DFCE DK EFAD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
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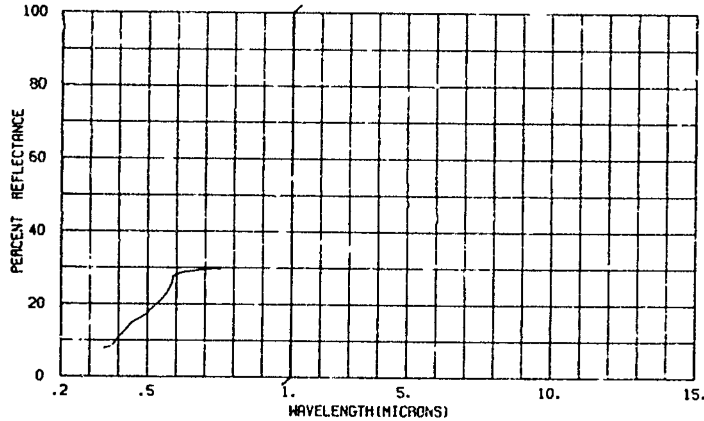

B20000-509 FELSITE, VEINED BY QUARTZ.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECFD ECB ECCA

PARAMETER INFORMATION
DATE= 16 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
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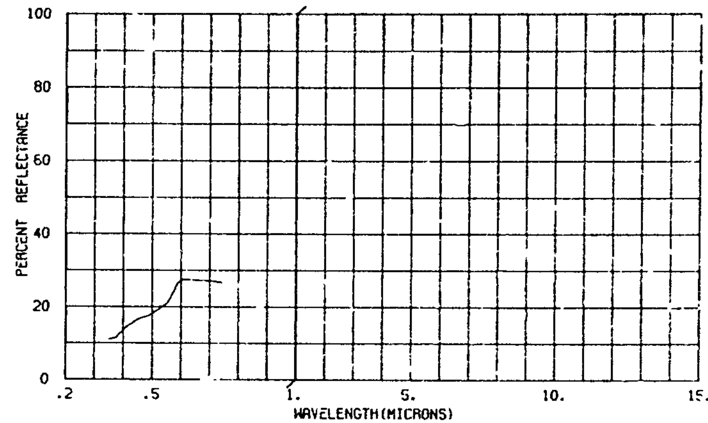

B20000-510 QUARTZITE.

SUBJECT CODES
BFHD CDA CED DFAA DFCE DK ECFD ECB FCCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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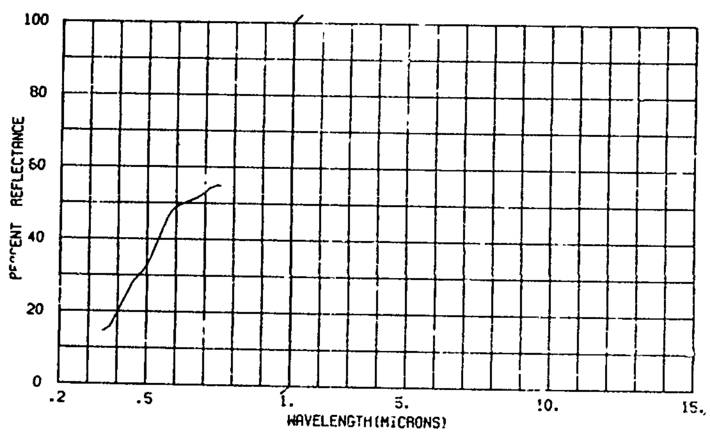

B20000-511 CORAL.

SUBJECT CODES
BFHC CDA CED DFAA DFCE DK ECAD ECB ECCA

PARAMETER INFORMATION
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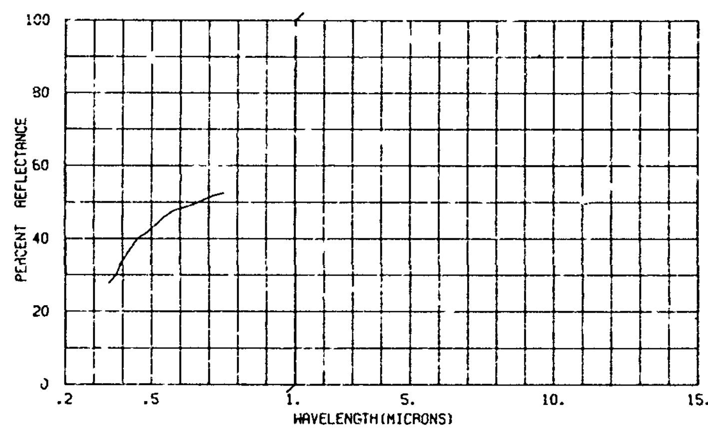

820000-512 QUARTZITE.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
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OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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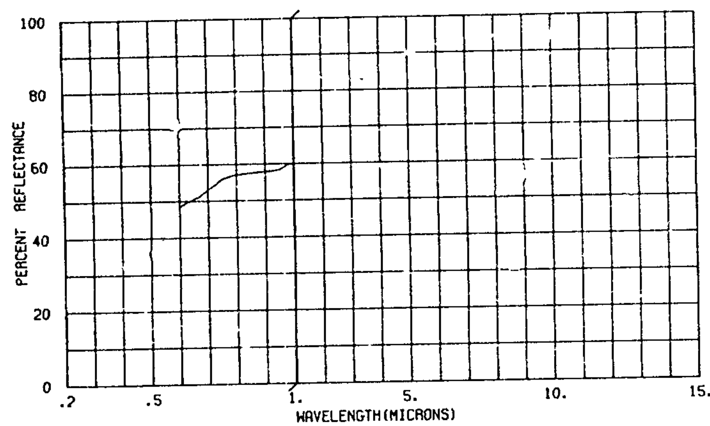

820000-513 CORAL.

SUBJECT CODES
BFHD COA CED DFAA DFCE DK ECB ECCA

PARAMETER INFORMATION
DATE= 15 12 66 TIME= LAT= LONG= ALT= RANGE=
DAYS RE= IN= 03.0 IAZ= CN= CAZ= IRR= E
OBST= TTEMP= WIND SP= WIND DI= CLD= VIS=
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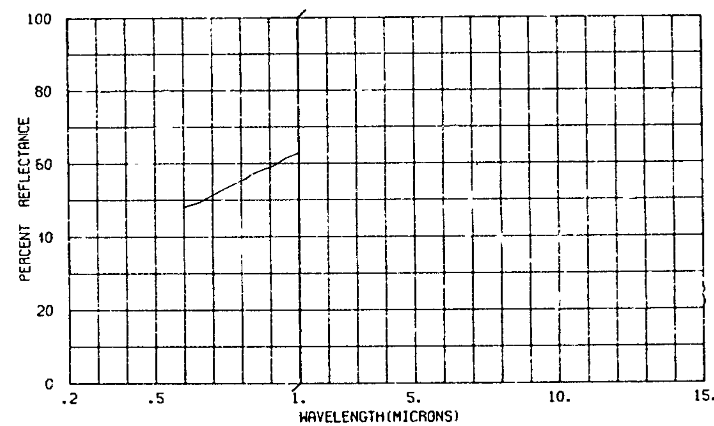

003856-047 MAGNESIUM OXIDE (NBS).

SUBJECT CODES

CJAA	CD	CED	DFA	DFF	DK	ECAD	ECB	ECCA	ECCB

PARAMETER INFORMATION

DATE=	58 TIME=	LAT=	LONG=	ALT=	RANGE=
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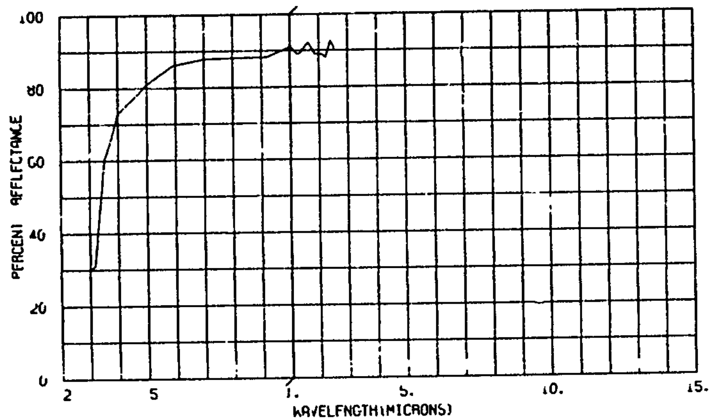

CJ 14

5
RADAR (ACTIVE MICROWAVE) DATA

5.1. INTRODUCTION

Each radar data curve has been digitized by the same technique as used for the optical data, and the curves are reproduced on uniform grids. Normalized radar cross section σ_0 in decibels is plotted along the ordinate, while the abscissa represents the angle measured from the normal (aspect angle) in degrees. The header information for each curve, which includes the curve's identification number, title, a coded designation for the type of terrain covered, and parameter information, is also supplied by computer.

A numerical code is used to identify the radar curves. The number of digits in the code is variable, depending on the number of descriptors required for a particular target or background. Table III contains the key for interpreting this code. The first digit, always a 3, identifies the curve as being radar data. The second digit, either a 1, 2, or 3, indicates that the curve is for a background, target, or combination of terrain and target, respectively. Third, fourth, and fifth digits, when used, represent successively finer subdivisions of the material class involved. Thus, 31312 represents clay, a subset of soil (3131), which in turn is a subset of terrain (313), which is a background material (31) being measured by radar (3). Table III also indicates which material classes require still additional descriptors. These are designated by the letters A, B, C, C_1, C_2, C_3, etc., as defined in table IV. Table V explains the parameter information appearing in the curve header. In section 5.2 the radar data are grouped according to the first four digits of the curve identification number.

TABLE III. RADAR DATA NUMERICAL CODE

31	BACKGROUND AND TERRAIN
311	Sky
312	H_2O States
3122 □ *$C_1C_2C_3C_4$	Ice
3123 □ AB	Water
313	Terrain
3131	Soil
31311$C_1C_2C_3C_4$	Sand
31312$C_1C_2C_3C_4$	Clay
31313$C_1C_2C_3C_4$	Loam, cultivated
31314$C_1C_2C_3C_4$	Loam, uncultivated
31315$C_1C_2C_3C_4$	Rock
31316$C_1C_2C_3C_4$	Salt
3132	Trees
31321$C_1C_2C_3C_4$	Leaves, laboratory sample
31322$C_1C_2C_3C_4$	Bark, laboratory sample
31323$C_1C_2C_3C_4$	Broad-leaf trees
31324$C_1C_2C_3C_4$	Narrow-leaf trees
31325$C_1C_2C_3C_4$	Broad-leaf shrubs
31326$C_1C_2C_3C_4$	Narrow-leaf shrubs
3133	Crops
31331$C_1C_2C_3C_4$	Grain
31332$C_1C_2C_3C_4$	Broad-leaf crops
31333$C_1C_2C_3C_4$	Grass
31334$C_1C_2C_3C_4$	Mosses, ferns, and fungi
3134X$C_1C_2C_3C_4$	Forest, where X is the percentage of cover
3135 □ $C_1C_2C_3C_4$	Farmland (including farm buildings, etc.)
3136 □ $C_1C_2C_3C_4$	Marsh
3137 □ $C_1C_2C_3C_4$	Desert
314	Space
315	Combinations of Ice, H_2O, and Land
3151A$C_1C_{2_I}C_{3_I}C_{4_I}$	Ice and H_2O
3152A$C_1C_2C_3C_4$	H_2O and land
3153 □ $C_1C_2C_5C_4C_{2_I}$	Ice and land
3154A$C_1C_2C_3C_4C_{2_I}$	Ice, H_2O, and land

*The symbol □ indicates a blank space.

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TABLE III. RADAR DATA NUMERICAL CODE (Continued)

32	TARGET
320	Composite areas
3201 □ $C_1C_2C_3C_4$	Industrial area
3202 □ $C_1C_2C_3C_4$	Residential area
3203 □ $C_1C_2C_3C_4$	Rural town area
321	Buildings and building materials
3211	Materials
32111 $C_1C_2C_3C_4$	Painted lumber
32112 $C_1C_2C_3C_4$	Brick and tile
32113 $C_1C_2C_3C_4$	Asphalt
32114 $C_1C_2C_3C_4$	Glass
3212 □ $C_1C_2C_3C_4$	Concrete buildings
3213 □ $C_1C_2C_3C_4$	Frame buildings
3214 □ $C_1C_2C_3C_4$	Camouflage, decoys, and temporary structures
3215 □ $C_1C_2C_3C_4$	Steel buildings
322 □ □ C_1 □ □ C_4	Personnel
323 □ □ C_1 □ □ C_4	Surface vehicles
3231 □ C_1 □ □ C_4	Trucks, armor, and painted vehicles
324 □ □ C_1 □ □ C_4	Aircraft
325 □ □ C_1 □ □ C_4	Missiles
328 □ □ $C_1C_2C_3C_4$	Airfields
3290D $C_1C_2C_3C_4$	Pavement, where D is

(1) Asphalt	(4) Concrete	(7) Cinder and gravel
(2) Brick	(5) Gravel	(8) Concrete and gravel
(3) Cinder	(6) Stone	(9) Cinder and dirt

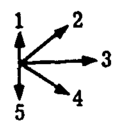
33	COMBINATIONS OF TERRAIN AND TARGETS
3301 □ $C_1C_2C_3C_4$	Orchard with paved highway
3302 □ $C_1C_2C_3C_4$	Desert, highway, and bridges
3303A $C_1C_{2_L}C_{3_I}C_4C_{2_I}$	Water, ice, land, and small buildings

TABLE IV. SCALES OF ADDITIONAL DESCRIPTORS FOR RADAR DATA

Scale A: Douglas Sea Scale

Code No.	Description	Wave Height (ft)	Wind Speed (knots)
0	Calm	0	0
1	Smooth	<1	<6.5
2	Slight	1 to 3	6.5 to 12
3	Moderate	3 to 5	12 to 14.5
4	Rough	5 to 8	14.5 to 18
5	Very rough	8 to 12	18 to 23
6	High	12 to 20	23 to 30
7	Very high	20 to 40	30 to 40
8	Mountainous	>40	>40
9	Confused		

Scale B: Wind-Direction Scale



1 indicates antenna direction.

Scale C_1: Season When Measurements Taken

1	Summer: June, July, August
2	Fall: September, October, November
3	Winter: December, January, February
4	Spring: March, April, May

Scale C_2: Small-Scale Roughness

1	Roughness = $<0.01\lambda$
2	Roughness = 0.01λ to 0.05λ
3	Roughness = 0.05λ to 0.10λ
4	Roughness = 0.10λ to 0.50λ
5	Roughness = 0.50λ to 1.00λ
6	Roughness = 1.00λ to 5.00λ
7	Roughness = 5.00λ to 10.00λ
8	Roughness = 10.00λ to 50.00λ
9	Roughness = $>50.00\lambda$

Scale C_3: Large-Scale Roughness

1	Flat
2	Rolling
3	Hilly
4	Mountainous

Scale C_4: Wetness or Snow

1	Dry ground
2	Wet ground (rain)
3	Partially flooded or swampy
4	Snow, $<3\lambda$ deep
5	Snow, 3 to 10λ deep
6	Snow, 10 to 20λ deep
7	Snow, 20 to 50λ deep
8	Snow, 50 to 100λ deep
9	Snow, $>100\lambda$ deep

TABLE V. RADAR DATA PARAMETERS

BAND	Frequency interval of measurement coded as follows:
	B — Low frequency
	P — 0.225 to 0.390 GHz
	L — 0.390 to 1.55
	S — 1.55 to 3.90
	C — 3.90 to 6.20
	X — 6.20 to 10.9
	KU — 10.9 to 20.9
	KA — 20.9 to 36.0
	Q — 36.0 to 46.0
	V — 46.0 to 56.0
FREQ	Exact frequency of measurement (gigahertz)
POL	Polarization of transmitted signal and polarization of received signal, coded as follows:
	VV — Vertical × vertical
	HV — Horizontal × vertical
	RL — Right circular × left circular
	RR — Right circular × right circular
	AV — Average
	HH — Horizontal × horizontal
	VH — Vertical × horizontal
	LR — Left circular × right circular
	LL — Left circular × left circular
LAT	Latitude of measurement
LONG	Longitude of measurement
DATE	Date of measurement (day, month, and year)
RADAR TYPE	Coded as follows:
	ACC — Airborne cw, coherent
	ACN — Airborne cw, noncoherent
	APC — Airborne pulse, coherent
	APN — Airborne pulse, noncoherent
	GCC — Ground cw, coherent
	GCN — Ground cw, noncoherent
	GPC — Ground pulse, coherent
	GPN — Ground pulse, noncoherent
BEAMWIDTH	Beamwidth between half-power points (degrees)
RANGE	Range in thousands of feet followed by an R for slant range or an H for altitude.
AREA	Total sampling area per average point (square feet)
AVERAGING	Degree of averaging, scaled from 1 (instantaneous) to 9 (very heavily averaged)
VARIANCE	Variance about curves (decibels)

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6
PASSIVE MICROWAVE DATA

6.1. INTRODUCTION

The passive microwave data in this compilation are apparent temperatures (antenna or target) as a function of aspect or depression angle. These data are processed in a manner similar to that used for the optical data in section 4, i.e., each curve is digitized and assigned subject codes (table I), and the parameter information describing the experimental conditions (see table VI) is listed. However, the system used to process the microwave data is actually an expanded version of that used with the optical data. It has been designed to handle not only passive microwave . .a, but also, eventually, both directional and bidirectional reflectance data. Thus, many of the parameters defined in table VI do not apply to the data now in this section, but were included for future data accessions.

TABLE VI. GENERALIZED (PASSIVE MICROWAVE) DATA PARAMETERS

	TIME
MONTH	Month of measurement
DAY	Day of measurement
YEAR	Year of measurement
TIME	Time of measurement (24-hour clock), Greenwich Standard Time (GMT)
	TARGET
LAT	Latitude (degrees) of measurement (field measurement) or of location at which specimen was collected (laboratory measurement)
LATNS	Latitude, North (N) or South (S)
LONG	Longitude (degrees) of measurement or of location at which specimen was collected, as with LAT
LONG EW	Longitude, East (E) or West (W)
TARALT	Altitude of target above ground (kilometers)
TARZEN	Zenith angle (degrees) of target normal with respect to vertical
TARAZ	Azimuth angle (degrees) of target normal with respect to a $\phi = 0$ reference line defined for a given target
TARUNF	Surface uniformity coded as UNIFRM (uniform) or NONUNF (nonuniform); in radar applications, use subject codes from table I or the Douglas Sea Scale codes (table IV).
TAROPQ	Target opaqueness coded as OPAQUE (opaque), TRANSP (transparent), or TRANSL (translucent)
TARTEM	Target temperature (degrees Kelvin)
TH2OES	Qualitative estimate of free water content coded as DRY, DAMP, WET or PTFL (partially flooded). Indicate snow under TARCS1 or TARCS2.
TH2OME	Quantitative measure (percent) of free water content; W indicates percentage by weight, V percentage by volume
HRSREM	Number of hours sample has been removed from its natural environment

TABLE VI. GENERALIZED (PASSIVE MICROWAVE) DATA PARAMETERS (Continued)

TARCS1	Target coating or substrate 1 coded using up to a five-letter code from the Target Signature Subject-Code List (table I) preceded by a C (coating) or S (substrate); snow coatings are indicated using the following letter code at the end of subject code BHBD: A Incomplete cover B Depth 0 to 5 cm C Depth 5 to 20 cm D Depth over 20 cm
TARCS2	Target coating or substrate 2 (see TARSC1)
TARCON	Target contaminant coded using up to a six-letter subject code from table I
TARSRD	Availability of data on the target's surface roughness, coded by AVAIL
TARDCN	Availability of the target's dielectric constant, coded by DC; its index of refraction, coded by N; or both, coded by BOTH
TARINF	Availability of other descriptive information about the target, coded by AVAIL

BACKGROUND

BKGTYP	Predominant background type coded using up to a six-letter subject code from table I
BKGUNF	Background uniformity (see TARUNF)
BKGOPQ	Background opaqueness (see TAROPQ)
BKGTEM	Background temperature (see TARTEM)
BH2OES	Qualitative estimate of free water content (see TH2OES)
BH2OME	Quantitative measure of free water content (see TH2OME)
BKGCS1	Background coating or substrate 1 (see TARCS1)
BKGCS2	Background coating or substrate 2 (see TARCS2)
BKGCON	Background contaminant (see TARCON)
BKGSRD	Availability of data on the background's surface roughness (see TARSRD)
BKGDCN	Availability of the backgrounds dielectric constant, index of refraction, or both (see TARDCN)
BKGINF	Availability of other descriptive information about the background (see TARINF)

METEOROLOGY

Note: These parameters are applicable to field experiments only.

AIRTEM	Ambient or air temperature (^{0}K)
BARPRS	Barometric pressure (millibars)
RELHUM	Relative humidity
VISBIL	Visibility (kilometers)
WINDSP	Wind speed (miles per hour)
WINDIR	Wind direction (N, NNE, NE, ENE, etc.); for radar, indicate relative bearing with 0^{0} being from target to receiver and angle measured counterclockwise
OBST	Obstructions in the air preventing a clear view of the target, coded as NONE, FOG, DRIZZL, RAIN, SNOW, HAZE, SMOKE, DUST, or OTHER
PRAMT	Ground accumulation of precipitation in the preceding 24-hour period (centimeters)
CLDCOV	Total cloud cover (percent)

TABLE VI. GENERALIZED (PASSIVE MICROWAVE) DATA PARAMETERS (Concluded)

SOURCE

Note: These parameters are not applicable to passive-microwave measurement systems.

SORTYP	Type of source coded using table I
SGAMMA	The real part of the coherence function of the source, i.e., the visibility function or $\lvert\gamma_0\rvert$; for radar, 1.0 = coherent, 0.0 = noncoherent
SORPOL	Type of source polarization coded using table I
SORDP	Degree of polarization at the source (percent)
ZENINC	Zenith angle of incidence (degrees)
AZINC	Azimuth angle of incidence (degrees)
SRANGE	Range (distance) from source to target (kilometers)
SORINF	Availability of other descriptive information about the source, coded by AVAIL

RECEIVER

MINST	Measuring instrument coded using table I
ROMEGA	Mean reflected solid angle (steradians)
RRANGE	Range from target to receiver (kilometers)
ZENOBS	Zenith angle of observation (degrees)
AZOBS	Azimuth angle of observation (degrees)
RECPOL	Type of receiver polarization coded using table I
LAMDA	Operating center wavelength λ_c (centimeters)
IFBAND	Intermediate frequency bandwidth or spectral resolution expressed as $\Delta\lambda/\lambda_c$
TIMEC	Time constant for integration time of the receiver (seconds)
INSENS	Availability of data on instrument sensitivity, coded by AVAIL
SYSACC	System accuracy expressed in units of the dependent variable
ANT3DB	3-db antenna beamwidth (degrees)
AVESLL	Average side-lobe level of the antenna (decibels)
RECINF	Availability of other descriptive information about the receiver, coded by AVAIL

GENERAL

PLATF	Experimental platform coded using table I
RELABS*	Dependent variable is indicated as relative (REL) or absolute (ABS)
STAND	Standard used coded using table I
NAVE	Number of curves or measurements averaged to make up this curve
VARNCE	Variance about curves in units of ordinate dimensions

*If ABS (absolute) appears along with an entry for STAND (standard), the measurement was originally done on a relative basis using the indicated standard and later converted to absolute values.

There is also a major difference in printed-out format between the curve headers for the optical data and those for the microwave data in this section. For the optical data, all the parameter designations are printed as part of each header whether or not there is specific information on the parameter. For the microwave data, only those parameters for which there are specific entries will appear; parameters that are not applicable or not specified are not included.

The data in section 6.2 are arranged by subject codes and alphabetically cross-indexed in section 3.

7
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13. ABSTRACT

This second unclassified supplement to the Target Signature Analysis Center: Data Compilation augments an ordered, indexed compilation of reflectances, radar cross sections, and apparent temperatures of target and background materials. The data include spectral reflectances and transmittances in the optical region from 0.3 to 15 μ and normalized radar cross sections (active) and apparent temperatures (passive), plotted as a function of aspect or depression angle, at millimeter wavelengths. When available, the experimental parameters associated with each curve are listed to provide the user with a description of the important experimental conditions.

This supplement contains approximately 400 data curves from experimental studies which include the current Target Signature Measurements Program conducted at The University of Michigan and sponsored by the Air Force Avionics Laboratory. The unclassified compilation, including these data, consists of about 4300 curves.

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